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A GUIDE FOR ACCREDITED VETERINARIANS

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

USE PESTICIDES AND DISINFECTANTS SAFELY

If you use pesticides and disinfectants, apply them only when needed and handle them with care. Follow the directions and heed all precautions on the container label. If pesticides are handled, applied, or disposed of improperly, they may be injurious to humans, domestic animals, desirable plants, honey bees and other pollinating insects, fish, and wildlife, and may contaminate water supplies.

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PREFACE

Animal diseases cost livestock growers and the American economy an estimated $1 billion a year. Much of this is preventable. But the manner of disease spread is complex. If this burden ever is to be relieved, it will be only as a consequence of the cooperative efforts of the veterinary profession.

Veterinary competence begins in college. It progresses through practice and training. For many years Federal regulatory agencies have relied on the ability and integrity of accredited veterinarians in the cooperative control and eradication of livestock diseases. Most State and Federal regulations evidence this reliance by specifying that certain livestock movements may be made when certified by a full-time State or Federal veterinarian, or an accredited veterinarian. The propulsion of mankind into the jet-age, with foreign animal diseases only hours away, has accentuated dependence and cooperative needs.

Accredited veterinarians who participate in cooperative animal health programs are not only protecting the livestock industry of the Nation, but adding to the well-being of mankind. This is a responsibility neither lightly given nor assumed.

Graduate veterinarians who are interested in becoming accredited should contact the State Veterinarian or the Area Federal Veterinarian-in-Charge of disease control and eradication activities for the State in which accreditation is desired. Because accreditation in one State is not valid in another, an applicant wishing accreditation should contact the officials in each respective State.

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A GUIDE FOR ACCREDITED VETERINARIANS

Veterinary Services (VS), Animal and Plant Health Inspection Service (APHIS), is responsible at the Federal level for the formulation and administration of cooperative State-Federal programs for the control and eradication of animal diseases. Administratively, VS is organized into five regions and 19 area offices, each covering two or more States. There is an Area Federal Veterinarian in Charge in each area.

The responsibility for protecting the health of the Nation's livestock encompasses activities that include full-scale eradication programs, more limited activities in certain diseases, epidemiological surveys, laboratory and field diagnostic services, regulation of biological production and marketing, and a continuing interest in all animal diseases, domestic as well as foreign, that pose a threat to the Nation's animal food supply.

This is a summary of some of those activities.

ANAPLASMOSIS

As an infectious disease of cattle, anaplasmosis comes under Federal laws and regulations that prohibit the interstate movement of diseased animals. Some States also have requirements that pertain to anaplasmosis; therefore, it is necessary that accredited veterinarians check not only the Federal requirements, but also the requirements of the State of destination prior to issuing interstate health certificates.

There are a number of useful tools in diagnosing and handling anaplasmosis—the complement-fixation (CF) test, the capillary tube agglutination test, a killed vaccine, direct blood smear examinations, antibiotic treatments, vector control, sanitation, and others. Many infected herds have been freed of the disease by the judicious use of test and treatment. The State of Hawaii has completed the eradication of anaplasmosis through a test and disposal program and now maintains its anaplasmosis-free status through the rigid testing of imports. Other States offer assistance in establishing anaplasmosis-free herds.

Veterinary Services, in cooperation with State animal disease control officials and cooperating livestock producers, has conducted surveys and field studies to determine the distribution and incidence of anaplasmosis. Complement-fixation testing services are provided by National Veterinary Services Laboratories, Animal and Plant Health Inspection Service, USDA, Ames, IA 50010, as well as at State-Federal cooperative laboratories in many States. Veterinary Services also trains serologists from cooperating laboratories in conducting the test.

ANIMAL WELFARE

Animals Covered by Animal Welfare Act Regulations

Animal Welfare regulations of the Department of Agriculture are applicable to live or dead dogs, cats, guinea pigs, hamsters, rabbits, nonhuman primates, and all wild warmblooded vertebrates, except those specifically exempted. Exemptions include rats, mice, birds, aquatic animals, farm animals, and horses.

Purpose

The purpose of the Animal Welfare Act of 1970 (PL 89-544 and PL 91-579) and Regulations is:

- To protect owners of dogs and cats from theft of such pets.
- To prevent the sale or use of dogs and cats that have been stolen.
- To insure that certain animals intended for use in research facilities or for exhibition purposes or for use as pets are provided humane care and treatment by persons or organizations engaged in using them for research, exhibition, or in transporting, buying, or selling them.

Regulations

Regulations and standards governing the humane care, treatment, and handling of certain animals used or intended for use in research, exhibition, or for use as pets are contained in Part 1, Title 9, Code of Federal Regulations. These standards list the minimum requirements for handling, housing, feeding, watering, sanitation, ventilation, shelter from extremes of weather and temperature, adequate veterinary care, including the appropriate use of anesthetic, analgesic, or tranquilizing drugs, and separation by species.

Veterinary Medical Care

Adequate veterinary medical care is one of the nine minimum standards required by the Animal Welfare Act of 1970. Section 3.10, 3.34, 3.59, 3.84 and 3.109 of Part 3 standards require that:

- Programs of disease control and prevention, euthanasia, and adequate veterinary care shall be established and maintained under the supervision and assistance of a doctor of veterinary medicine.

ANTHRAX

Anthrax is a threat to the livestock industry of the United States, both from indigenous and foreign sources. Many States have specific regulations concerning the manner in which anthrax outbreaks should be handled. The outbreaks should be reported to State animal health officials.

When an indigenous source is involved, the usual situation is that cattle are pastured on an area in which there has been previous flooding and a kill of vegetation in which the grass has taken on a brownish tinge. The flooding is followed by a period of drought. An alkaline or neutral soil or water source contributes. Anthrax outbreaks occurring on such pastures may be handled by moving the cattle from the pasture to another that does not have the same contributing environmental conditions. The surviving animals should be vaccinated. The carcasses of animals that have died of the disease should be buried deeply or burned on the spot. When anthrax is suspected, carcasses should not be opened for post mortem examination.

For laboratory confirmation of deaths caused by anthrax, a superficial vein is opened and a specimen prepared by soaking a swab or a 2- to 3-inch piece of sterile umbilical tape with the blood. The amount of blood should be small to allow quick drying. The specimen

is dried in an open sterile screwcap test tube. The tube is then closed and placed in a double mailer, the inside container of which must be metal. The specimens may be sent by registered airmail to the National Animal Disease Center, Ames, Iowa, after clearance from the Area Federal Veterinarian-in-Charge, or a local diagnostic laboratory may be able to perform the necessary bacteriology, animal inoculation, and phage typing. An excellent reference on the laboratory diagnosis of anthrax will be found in the Proceedings of the U.S. Livestock Sanitary Association, 63rd Annual Meeting, San Francisco (1959):399-405.

When anthrax outbreaks in animals have occurred in relation to imported animal byproducts, they have usually been associated with contaminated nonsterile bonemeal mixed in animal feeds. Federal regulations covering the importation of bonemeal specify that the product must be prepared by heating the bone under a minimum of 20 pounds steam pressure for at least 1 hour at a temperature of not less than 250° F. The product must be free from pieces of bone, hide, flesh, and sinew, and contain no more than traces of hair and wool.

In all outbreaks of anthrax, an effort should be made to discover the source of the infection. If contaminated feed is involved, an early determination of this fact may head off additional outbreaks.

The accredited veterinarian has a unique opportunity to provide authentic information concerning the hazards of anthrax and can help to alleviate the hysteria that sometimes accompanies anthrax outbreaks. Familiarity with the ecologic conditions which may lead to an outbreak of anthrax will permit the accredited veterinarian to recommend anthrax vaccination, thereby heading off potential anthrax losses. The veterinarian should be thoroughly familiar with any local or State regulations concerning vaccination for anthrax.

BLUETONGUE

Bluetongue is an infectious, noncontagious disease of ruminants occurring principally in sheep. The first isolation of bluetongue virus in the United States was made in California, in 1952; however, the disease was thought to exist in Texas as early as 1948 where it was known as "soremuzzle." Since 1952, bluetongue has been reported from 31 States: Alabama, Arizona, California, Colorado, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, and Wyoming. Virus isolations have been made from cattle, sheep, or wildlife in each of these States except Virginia and West Virginia. Four immunological types of bluetongue virus have been isolated from sheep and cattle in field outbreaks. These have been identified by the International Typing Center at Onderstepoort, South Africa, as International Types 10, 11, 13, and 17. A very similar virus disease, epizootic hemorrhagic disease, affects cattle and deer; however, it is difficult to infect sheep with this disease. Epizootic hemorrhagic disease is caused by a different and distinct virus from bluetongue. Dual infections with bluetongue and epizootic hemorrhagic disease can occur in cattle and deer. The principal insect vector of these diseases in the United States is *Culicoides variipennis.*

The signs of bluetongue in sheep consist of temperature rise, depression, nasal discharge, salivation, edema of the lips and head, hyperemia and cynosis of the buccal mucosa, followed by ulceration and necrosis, hyperemia of the coronary band, lameness, and bloody diarrhea. In cattle, the disease may be an inapparent infection or produce signs as severe as those observed in sheep. Bluetongue can and does cause severe losses in

individually infected flocks and herds; however, other major losses to the U.S. cattle and sheep industry are the difficulty in certifying animals for export to certain countries and the barrier to our export market in others.

When bluetongue is suspected, animal health officials should be notified. They will assist in submitting samples to the Veterinary Services Laboratories, Ames, Iowa, for virus isolation studies and serological tests. Blood collected for these studies should be obtained from animals in early stages of the disease if possible—preferably those with high temperatures.

Good nursing care is the only form of treatment available for bluetongue. Vaccines have been developed and used against bluetongue in sheep. The virus is attenuated by two methods: (1) chicken embryo passage (CEO) and (2) chicken embryo passage followed by tissue culture passage (TCO). Only TCO vaccine produced from one serotype is presently available. This vaccine appears to provide good immunity against the homologus serotype but poor or no immunity against heterologous serotypes. A CEO product was available in the United States; however, it produced undesirable side effects and could be transmitted by the vector as a virulent disease to susceptible animals.

BRUCELLOSIS ERADICATION

The Program

The eradication of brucellosis from all species of domestic livestock is a cooperative program between the States and the Federal Government, conducted under the laws and regulations of the individual States. The Federal Government cooperates with the States through memorandums of understanding under authority of specific Federal laws relating to animal diseases. The Uniform Methods and Rules, Brucellosis Eradication, are the minimum standards for establishing and maintaining certified and validated herds and areas leading to total eradication of brucellosis from the entire Nation. The Uniform Methods and Rules are adopted by the United States Animal Health Association (USAHA) and approved by the Animal and Plant Health Inspection Service, U.S. Department of Agriculture. Amendments to the Uniform Methods and Rules are considered by the USAHA at the annual meetings.

Interstate Movement of Animals as Related to the Brucellosis Program

Veterinary Services has primary responsibility for the control of interstate movements of animals. Federal regulations, promulgated by the Department, set forth the provisions under which animals may be transported interstate. The regulations are promulgated under the authority of the basic Federal laws concerned with animal disease control and eradication activities. These laws also provide the Department with authority to contract for the services of accredited veterinarians to assist in the brucellosis eradication program.

Accredited veterinarians should be familiar with the Federal regulations pertinent to the brucellosis eradication program whether or not they participate directly. As a service to their clients, most of them will be issuing official documents and performing other services required by the regulations.

Specific Federal Regulations Related to the Program

Applicable regulations will be found in the Code of Federal Regulations (CFR), Title 9, Chapter I, Subchapter B, Part 51, and Subchapter C, Parts 71 and 78.

Part 51 sets forth the provisions under which indemnities may be paid for animals destroyed because of brucellosis, as well as some other diseases.

Part 71 includes general provisions for interstate transportation and identification of animals, including instructions for cleaning and disinfecting vehicles, yards, premises, and such, and the permitted disinfectants to be used.

Part 78 is specifically related to brucellosis, setting forth in detail the provisions under which animals may or may not be moved interstate.

Amendments to the Federal Regulations

Federal regulations are amended at frequent intervals as the need arises. Amendments appear in the Federal Register, published by the Office of the Federal Register, National Archives and Records Service, General Services Administration. The Register is distributed by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of the regulations and recent amendments are available from the Area Federal Veterinarian-in-Charge, Veterinary Services, Animal and Plant Health Inspection Service, in the various States.

Specifically Approved Market–Certified Areas

Part 78 is particularly important in that it lists livestock markets and packing plants that are specifically approved to receive animals moving interstate under provisions of the brucellosis regulation. Also, it lists the States and counties that have achieved status as Modified Certified Brucellosis Areas under the Cooperative State-Federal Brucellosis Eradication Program.

History of Brucellosis Eradication

The Cooperative State-Federal Brucellosis Eradication Program began in 1934 as a drought relief program. Most States participated from the start. At that time the program was based on the blood-serum agglutination test of cattle, with elimination of reactors. By this method alone, the animal infection rate was reduced in participating areas from 11.5 percent in 1935 to 2.5 percent in 1939. Since that time research and field trials have provided a number of additional measures that have proved to be effective in the eradication program.

Strain 19 Vaccine–Department of Agriculture scientists developed Strain 19 vaccine to be used against brucellosis. The vaccine was introduced into the official program in 1941, and has proved a valuable adjunct to the other procedures included in the program. Research trials over the years and extensive field surveys have established the efficacy of the vaccine. Approximately 65 percent of the cattle properly vaccinated with Strain 19 develop serviceable resistance against later exposures with infective doses of brucella. This level of herd immunity, while not ideal, provides a satisfactory means for controlling the spread of

brucellosis within infected herds. Consequently, vaccination with Strain 19 should be practiced in all areas where brucellosis is prevalent or when the livestock owner anticipates marketing surplus heifers and cows in areas where brucellosis is prevalent. Livestock owners receiving purchased additions from areas where brucellosis is common should also continue a vaccination program in their herd.

The merits of the vaccine have been proved, but its limitations in relation to the total eradication program must be kept in mind. The interference of persisting vaccinal reactions on the diagnostic tests can be nearly eliminated by vaccinating the animals as soon as possible after the animals reach 2 months of age. In all cases, vaccination with Strain 19 should be conducted prior to 6 months of age in dairy heifers, and before 10 months of age in beef heifers. Vaccination of 2-month-old calves provides the same level of resistance against later infection as found among animals vaccinated at sexual maturity. Although vaccination can assist in controlling the spread of brucellosis, it does not provide sufficient resistance to cause the eradication of brucellosis. In fact, there is relatively little change in the overall herd infection rates for vaccinated versus nonvaccinated populations, but the animal infection rates are greatly reduced.

Milk Ring Test.—In 1952 the milk ring test was approved and became a vital phase of the brucellosis eradication program. All commercial dairy herds in the United States are screened three to four times annually by this method. Eradication efforts are concentrated in those that are suspicious to the test. A suspicious ring reaction is presumptive evidence of Brucella infection and is followed by a herd blood test. The test is remarkably specific; approximately two-tenths of 1 percent suspicious tests is now common in many States. Thus, more than 99 percent of the blood testing of dairy herds that would otherwise be necessary has been eliminated in these States. As time permits, those few herds that are persistently suspicious to the milk ring test, but do not reveal blood test reactors, are the object of further investigations as to the cause.

Market Cattle Tests.—A major screening program utilized in brucellosis eradication is market cattle identification. Introduced in 1959, this procedure involves the testing, at market centers and packing plants, of cows that are not adequately screened by the brucellosis milk ring test (BRT). The reactor animals are traced to herds of origin, and the complete herd is placed on an individual animal testing program. The market cattle program is contributing materially to the brucellosis eradication effort in most sections of the country. Its universal adoption is anticipated since this will provide the frequency of screening necessary to disclose the majority of the outbreaks of brucellosis in beef cattle and thereby help assure eradication. In addition, the continuation of the milk ring test and the market cattle testing program in those areas already free of brucellosis will provide a relatively inexpensive surveillance program. A similar procedure is used to locate brucellosis in the swine population.

Epidemiological Investigations.—As the goal of eradication is approached, it has become evident that special epidemiological methods (utilizing supplemental testing procedures) would be necessary in problem herds in order to remove the last vestiges of infection. Trained epidemiologists are available in most States to conduct such work, utilizing all of the known special methods and procedures as an aid in conducting a complete epidemiological investigation in the very limited number of remaining problem herds.

Eradication, the Goal

The importance of carrying out the above-mentioned procedures on an area basis cannot be overemphasized. The goal of area, State, and nationwide certification can be attained only when recommended procedures are uniformly applied to all herds within all areas. The certification of areas is an important step in the overall program to eradicate brucellosis. Without organized area effort and the wholehearted participation of all herd owners, veterinarians, and others participating in the program, gains already made will be difficult to maintain, and the goal of eradication of brucellosis will be delayed.

The Accredited Veterinarian: A Representative of the Government

The accredited veterinarian, in assuming responsibilities for brucellosis eradication program activities, becomes a representative of the Government and as such must support program policies. He should accept his full share of the program workload consistent with his available time. In estimating his participation, early completion of assignments should receive primary consideration. He should be willing to keep himself fully informed of the details of the program, as well as advances in the principles of brucellosis eradication. He should perform all services in accordance with State and Federal laws and regulations and with approved procedures. As a representative of the Government and the veterinary profession, he should observe the highest standards of professional technique and conduct.

Participation of Accredited Veterinarians

Many accredited veterinarians will be participating in some part of the brucellosis eradication program before its completion. They will perform the following services:

- Provide herd owners and other interested parties with facts concerning the brucellosis eradication program and about the disease itself.
- Obtain blood samples and otherwise perform professional services promptly when requested by owners and authorized by officials.
- Prepare in detail and submit test record charts, including identification of animals, estimated age, pertinent history, vaccination record, and other information required.
- Promptly tag, brand, and appraise all reactors as authorized. Indemnity claims constitute a legal and binding contract when approved, and the importance of accurate and full information cannot be overemphasized.
- Instruct owners of infected animals as to isolation and proper disposal of reactors, quarantine, shipping permits, cleaning and disinfection of premises and equipment, indemnity claims, and management practices to prevent recurrence of the disease.
- Retest infected herds promptly as authorized by program officials. The owner's initial investment in disease eradication may be lost by an unduly delayed retest.
- Where vaccination is practiced, maintain stocks of Strain 19 vaccine in such a manner as to assure its potency when administered.
- Where vaccination is practiced, vaccinate calves at recommended ages, accurately identify them, and promptly report all vaccinations to State or Federal officials. If the tattoo is used, the accredited veterinarian is expected to utilize techniques that will assure legibility.

Some Suggested Techniques in Brucellosis Testing

1. Draw blood carefully so as to minimize contamination. Fill tubes about half full and allow to stand at room temperature until firmly clotted (2 or 3 hours), then cool or refrigerate (do not freeze).
2. Identify tubes in accordance with instructions. Examine the stopper to assure firm fit and absence of leakage; carefully pack tubes as directed to prevent breakage.
3. Provide a separate sterile needle for each animal tested. Nose tongs should be disinfected between animals.
4. The following table is used in classifying cattle tested, except as noted in paragraph 6, below.

Official Vaccinates				All Other			
1/50	1/100	1/200	Result	1/50	1/100	1/200	Result
–	–	–	Negative	–	–	–	Negative
I	–	–	Negative	I	–	–	Suspect
+	–	–	Negative	+	–	–	Suspect
+	I	–	Suspect	+	I	–	Suspect
+	+	–	Suspect	+	+	–	Reactor
+	+	I	Suspect	+	+	I	Reactor
+	+	+	Reactor	+	+	+	Reactor

5. Under the Uniform Methods and Rules for Brucellosis Eradication, officially vaccinated female dairy cattle 20 months of age and older, and officially vaccinated female cattle of the beef breeds 24 months of age and older, shall be blood tested.
6. Cattle classified as suspects according to the above table that have a history of abortion may be designated reactors, if they are in a herd containing reactors. If the Veterinarian-in-Charge approves such designation, these cattle may be eligible for indemnity in States where State or Federal indemnity is paid.

CATTLE FEVER TICK ERADICATION

The cattle fever tick eradication program is designed to eliminate the vector for bovine piroplasmosis.

Bovine piroplasmosis is caused in the United States by *Babesia bigemina* and *Babesia argentina.* All breeds of cattle and buffalo are susceptible.

The incubation period is 15 to 25 days. The signs are fever, depression, anorexia, hyperemic mucous membranes followed by anemia and icterus, rumen atony, hemoglobinuria, and constipation or diarrhea. Death may occur in as little as 2 days; recovery from symptoms may occur in 2 weeks but restoration of blood takes more than 2 months. Mortality ranges from 30 percent to 40 percent. Immunity is nonsterile.

Babesia bigemina and *Babesia argentina* are transmitted by eight species of ticks of which only two, *Boophilus annulatus* and *B. microplus*, are found in the United States. They are also found in Africa, Asia, Australia, Central America, Mexico, South America, and the West Indies.

Boophilus spp. ticks are one-host ticks. The primary host is domestic cattle. Hosts of lesser significance include horses, goats, sheep, and deer.

Diagnosis of piroplasmosis may be made from recognition of the parasite in a blood smear or with serological tests—complement-fixation, indirect hemoglutination, or precipitin.

The Boophilus ticks go through the larval, nymphal, and adult stages on a single host. The parasitic period ranges from 18 to 66 days, but is usually 21 to 23 days. The nonparasitic period ranges from 28 to 279 days and is determined by degree days. The average number of eggs is about 3,500.

Recognition of infestation is made through identification of ticks collected from animal hosts.

Piroplasmosis is transmitted by infected ticks. The infection is maintained in ticks by transovarian transmission of the Babesia.

Ticks are most commonly spread by the movement of infested animals but may also be spread through the movement of feedstuffs or bedding.

Piroplasmosis responds to treatment with trypan blue, quinuronium derivatives, acridine derivatives, and aromatic diamidines.

Ticks may be destroyed by dipping or spraying of the host with permitted chlorinated hydrocarbon, organophosphorus, or inorganic pesticides.

CATTLE FEVER TICK PROGRAM

The program was initiated in 1906, after establishment in 1889 of the role of the Boophilus tick as the vector for bovine piroplasmosis. The incentive for the program was the annual loss of $40 million from piroplasmosis prior to 1906 and the interference of the disease with establishing and developing a viable cattle industry in the South.

Piroplasmosis had been a problem in this country, and there are reports of losses in Pennsylvania as early as 1796. The Colonies passed laws with respect to control of cattle fever—South Carolina in 1744 and North Carolina in 1766.

A quarantine line was established July 3, 1889. The program for eradication began in 1906. At the outset, 985 counties in 15 States were under quarantine.

The program made use of various means to free cattle of ticks. These included manual removal of ticks, sulfur dips, crude oil dips and washes, carbolic acid washes, tobacco extract, sodium sulphate, glycerin, cottonseed oil, and other chemicals. Arsenic in the form of a dip made of arsenic trioxide, sal soda, and pine tar was officially recognized for dipping ticky cattle in 1910. It remained the official dip until the cattle fever tick had been eradicated. At the present time the official list contains proprietary brands of arsenical dip, coumaphos, dioxathion, and toxaphene.

Infestation is determined by identification of the tick. Exposure is determined from a study of animal movements.

Quarantines are placed on all infested, exposed, and adjacent premises.

DOURINE

Dourine, or suspected dourine, should be reported promptly to animal health officials. Veterinarians should be prepared to collect blood samples from suspected equidae so that these authorities can forward preserved serum samples to the National Veterinary Services Laboratories, USDA, Ames, Iowa 50010, for laboratory assistance in diagnosis, using the complement-fixation test.

EQUINE BABESIASIS
(Equine Piroplasmosis)

The first known case of equine babesiasis in the United States was diagnosed on August 10, 1961, in Florida. Neither the date, mode of entry into the country, nor the incidence in the United States is known. Confirmed cases of the disease have been reported in Arizona, Arkansas, Georgia, Florida, Minnesota, Mississippi, Nebraska, New Jersey, New York, North Carolina, South Dakota, Tennessee, Puerto Rico, and on the island of St. Croix in the U.S. Virgin Islands. The disease is carried by the protozoa *Babesia caballi* and *B. equi,* which invade the red blood cells of solipedes. *B. caballi* is considered to be less pathogenic than *B. equi.* Worldwide, 15 species of ticks are incriminated or proven vectors of equine babesiasis. At least two of them are found in the United States–the brown dog tick, *Rhipicephalus sanguineus,* and the tropical horse tick, *Dermacentor nitens.* The complement-fixation test for babesiasis is recognized as a practical laboratory aid to diagnosis. A less practical aid to diagnosis is the demonstration of protozoa in the red blood cells. Protozoa are most common in the peripheral circulation 2 to 5 days following appearance of clinical signs. Differential diagnosis is further complicated by the fact that *equine babesiasis is clinically indistinguishable from equine infectious anemia.*

Veterinarians should be alert to cases of sick horses. When equine babesiasis or equine infectious anemia is suspected, Federal or State animal health officials should be notified immediately. Accredited veterinarians should be acquainted with the special techniques of collecting peripheral blood for diagnosis of equine babesiasis. This information is available on request from Federal or State animal health officials. Ticks found on infected animals should be collected and forwarded to the National Veterinary Services Laboratories, USDA, Ames, Iowa 50010 for identification.

EQUINE VIRAL ENCEPHALOMYELITIS

Three types of viral encephalomyelitis affect horses and other equidae in the United States; namely, Eastern (EEE), Western (WEE), and Venezuelan (VEE). These three entities also may pose a public health problem when viral activity reaches a certain level. The epizootic Venezuelan virus was only reported in the United States in 1971 in south Texas. The Eastern and Western types have been reported from many areas of the United States for at least 30 years. In epizootic Venezuelan encephalomyelitis outbreaks, horses and other equidae are considered major amplifiers of the virus; whereas in the Eastern and Western types equidae are considered "dead-end" hosts.

It is impossible to differentiate among EEE, WEE, and VEE by clinical signs. The disease must have laboratory confirmation of suspected cases for differential diagnosis.

Outbreaks of these viral encephalitides can be controlled using the following methods:

1. Protection of horses and other equidae through vaccination.
2. Insect control.
3. Controlling the movement of horses and other equidae from outbreak areas.

Any horse or other equidae suspected of viral encephalomyelitis should be reported to State-Federal animal health officials.

The U.S. Department of Agriculture carries out an active program of promoting vaccination of equine against EEE, WEE, and VEE; conducts laboratory tests on all suspicious cases of equine encephalitis to determine whether the virus involved is Eastern,

Western, or Venezuelan; maintains close liaison with the United States and individual State public health services; and collects mosquitoes and samples from wild animals for virus assay.

FOREIGN ANIMAL DISEASES

Present-day speed and magnitude of world traffic has multiplied the possibilities of foreign animal diseases entering the United States. EARLY DETECTION, CONTAINMENT, AND ERADICATION are essential to prevent widespread outbreaks with the accompanying economic loss to the national economy. The export of animal products depends largely upon the ability of the livestock industry to maintain a population free of the devastating diseases that rack a large segment of the world's animal population annually.

Many of these diseases cannot be accurately differentiated clinically from the enzootic diseases of the United States. Foot-and-mouth disease and vesicular stomatitis, African swine fever and hog cholera, rinderpest and virus diarrhea, fowl plague and Newcastle disease are examples of foreign and domestic diseases that are clinically difficult to differentiate. The United States Animal Health Association's Committee on Foreign Animal Diseases has published a report describing the most important foreign animal diseases. This report, revised in 1975, may be obtained from Dr. Wilmer L. Bendix, Secretary-Treasurer, United States Animal Health Association, 1910 Byrd Avenue, Suite 118, Richmond, VA 23230.

The veterinary practitioner is the first line of defense against the establishment of a foreign animal disease in this country. His responsibility to recognize and to report a suspected new disease entity is paramount to the success of maintaining a healthy livestock population. To assist the practitioner in this area of responsibility, Veterinary Services, APHIS, has strategically located veterinary diagnosticians specifically trained in the diagnosis of foreign diseases. Each diagnostician is fully equipped to collect and submit selected specimens to designated laboratories.

Five Regional Emergency Animal Disease Eradication Organizations (READEO's) have been established, one in each Veterinary Services Region to initiate immediate action in the event a foreign disease is diagnosed. These organizations through regular training and test exercises have developed the capability to mobilize equipment and manpower rapidly to contain and eradicate a foreign animal disease outbreak. State Departments of Agriculture, Department of Defense, State Police, Extension Service, State Wildlife Agencies, universities, and other cooperating agencies are included in the Regional Emergency Animal Disease Eradication Organizations.

ALL SUSPECTED FOREIGN ANIMAL DISEASES SHOULD BE REPORTED IMMEDIATELY to State or Federal animal disease control officials to insure coordination of efforts between the practitioner, the diagnostician, and the laboratory. Constant vigilance and investigation are essential to prevent the establishment of new diseases in the livestock population of the United States.

HOG CHOLERA

Known in the United States since the 1830's, hog cholera has been reported from all parts of the country and has killed more swine above weaning age than any other infectious disease. In 1962, an eradication campaign against hog cholera began.

The cooperative State-Federal hog cholera eradication program was based on the following principles:

- Prompt reporting of suspected cases.
- Quarantine of infected and exposed swine.
- Controls over interstate and intrastate movements of swine.
- Proper disposal of infected and exposed swine.
- Cleaning and disinfection of infected premises and facilities.
- Cooking garbage fed to swine.
- Extensive informational and educational campaigns concerning the disease and its eradication.

The last case of hog cholera occurred in New Jersey in August 1976. The United States was declared hog cholera free by the Secretary of Agriculture on January 31, 1978. Should hog cholera again occur in the United States it will be treated as a foreign animal disease.

Prior to the hog cholera eradication program annual losses due to the disease and vaccination costs were $50 million a year. The total cost of eradication from 1962 through 1977 was $140 million.

HORSE PROTECTION

The Horse Protection Act of 1970 (PL 91-540) became law in December 1970. It has as its purpose the protection of horses at shows where one or more horses were moved in commerce, and in exhibitions from the practice of deliberate laming or soring of the horse for the purpose of affecting its gait. The legislative history of the Act was almost entirely confined to abuses common during showing of the Tennessee Walking Horse. However, the Act as approved deleted all reference to the Tennessee Walking Horse and uses only the word "Horses" in its various provisions. The Department of Agriculture must, therefore, follow the wording of the Act and not the legislative history, until such time as Congress changes the wording of the law.

Veterinarians under this Act do not assume liability at horse shows, but in their position as advisors or consultants to show management, should point out lame or sored horses to management. They are not to enforce the Act, but only to assist show management with its responsibilities.

LEPTOSPIROSIS

Leptospirosis is caused by any one or a combination of *Leptospira* spp. All animals and man are susceptible to leptospirosis, depending upon the pathogenesis and host adaptability of the particular species of *Leptospira* involved. It is worldwide in distribution and is common in wildlife. Wild animals pose a threat to domestic animals as a potential reservoir for recurring outbreaks. Although eradication of leptospirosis is not possible with the tools now available, the disease can be controlled reasonably well by the proper use of available bacterins. Chemotherapy is also effective in many instances. Effective sanitation and rodent control are indispensable when handling outbreaks. An infectious disease, leptospirosis comes under Federal and State laws and regulations prohibiting the interstate movement of affected animals.

Blood tests for leptospirosis, offered as a service by many State laboratories, have been an effective aid in leptospirosis control. Because this disease frequently resembles

brucellosis in cattle and swine, it is very important to check for both when you investigate outbreaks in which abortion is reported. Veterinary Services activities related to leptospirosis are limited at present to diagnostic serology in selected locations.

LEUKOSIS

The term "leukosis" embraces a number of diseases of the lymphatic tissues. The disease is found in all domestic animals, poultry, and man. It is particularly prevalent in chickens and rodents. In all species where a cause has been definitely demonstrated, it has been a virus. The viruses of avian leukosis are well known and have been studied extensively. The viruses of murine leukosis also have been studied extensively although isolated comparatively recently. A virus has been recovered from cats affected with feline leukosis. Viruslike particles have been seen with the electron microscope in lymphoid tumor tissues of man and the larger domestic animals. There is good reason to believe that when the causes of leukosis in the larger domestic animals and man have been found, they will prove to be viruses. The disease is being recognized more frequently in cattle in recent years, and much research is under way to establish its etiology. Because there is evidence that it is transmissible, domestic animals clinically affected with this disease should not be moved from herd to herd.

Denmark has had a bovine leukosis eradication program since 1959. Considerable progress has been made there. Other countries are viewing the disease with some degree of alarm. Germany and Sweden have found leukosis to be so prevalent that they cannot consider adopting a Denmark-type eradication program at this time without seriously interfering with the economy of their cattle industry. A number of foreign countries now require surveillance of herds of origin from which individual animals are imported. It is evident that leukosis will assume increasing importance in the years to come.

MASTITIS

Mastitis is the most serious and costly disease of dairy cattle in the United States. Although the causes are many and varied, a number of them are infectious. At least one form of mastitis—that caused by *Streptococcus agalactiae*—can be eradicated. Because of its insidious nature, however, it is frequently reintroduced with newly purchased cows. Other forms of mastitis can be materially reduced in frequency through improved husbandry, meticulous milking procedures, good sanitation, proper maintenance of milking equipment, and constant surveillance of milk quality.

The National Mastitis Council is leading the mastitis abatement effort in the United States; Statewide mastitis committees are being organized everywhere to increase the local efforts. There is a trend toward organized State programs, based on milk quality and screening tests, with obligatory participation on the part of all dairymen. The majority of such programs utilize bulk-milk tests that disclose abnormally high leukocyte content. Because the mammary secretions of cows with mastitis do not meet the definition of milk as a human food product, bulk supplies containing such abnormal secretions are considered adulterated. Drugs used in treating mastitis must also be excluded from the public milk supply. The private practicing accredited veterinarian can do much to alleviate the mastitis situation and improve the quality of the public milk supply. Health examinations of dairy cows should always include the udder.

MUCOSAL DISEASE AND OTHER SIMILAR INFECTIOUS DISEASES

Bovine virus diarrhea, infectious bovine rhinotracheitis, and other infectious diseases of cattle with which they may be easily confused should be reported immediately to State or Federal animal health authorities. Correct and early diagnosis is very important because these diseases closely resemble such serious exotic diseases as rinderpest and contagious pleuropneumonia which are a constant threat to the livestock of the United States. Specially trained foreign animal disease diagnosticians are available to aid in the diagnosis of all outbreaks of diseases that could conceivably be of foreign origin. Alert private practicing veterinarians are an indispensable line of defense against exotic diseases, which could cause devastating plagues among our livestock. The usual laws and regulations—that animals affected with infectious or communicable diseases may not move interstate—apply to these diseases.

POULTRY DISEASES

Poultry diseases cost producers about $300 million annually. Respiratory diseases, such as infectious bronchitis, Newcastle disease, and chronic respiratory disease (CRD) triggered by *Mycoplasma* organisms and complicated by *Escherichia coli*, cause a major part of this loss. Airsacculitis and related conditions produced by respiratory diseases account for major losses of turkeys in federally inspected processing plants. Veterinarians who inspect flocks for interstate shipment or for export should be alert for evidence and history of respiratory diseases. The agglutination test plus hemagglutination inhibition, is used to diagnose *Mycoplasma gallisepticum.*

Avian leukosis causes flock mortality and condemnation of carcass losses estimated at $65 million annually. This condition is a major cause of condemnations of young chickens in federally inspected poultry processing plants. Since the development of an effective vaccine, this condition ranks second to septicemia as a cause for condemnation.

No Federal interstate shipping requirements exist for poultry relative to pullorum disease and fowl typhoid; however, many receiving States require that inshipped hatching eggs and poultry, except poultry intended for immediate slaughter, originate from flocks participating in the National Poultry Improvement Plans (NPIP), or equivalent programs. Accredited veterinarians may be called upon to inspect, test, and certify poultry shipments from NPIP flocks for interstate or export movement. They, therefore, should be familiar with NPIP or equivalent requirements.

Information about the NPIP may be obtained from the office of the State veterinarian, appropriate State poultry disease control official, or the Area Federal Veterinarian-in-Charge, Animal Health Programs. Most States participate in a cooperative State-Federal system for reporting diagnosis and outbreaks of pullorum and typhoid. Accredited veterinarians should submit such reports to the appropriate State poultry disease control official.

The regulations of the receiving State regarding shipment of poultry into that State should be determined prior to movement. The office of the responsible disease control official can provide this information.

Most States require routine reporting of many domestic diseases of poultry. More information on this or other poultry diseases may be obtained from the office of the State disease control official.

Psittacosis, or ornithosis, outbreaks of suspected cases should be promptly reported. Positive diagnosis is based on isolation of the viral agent. Federal regulations prohibit interstate movement of live poultry, carcasses, parts, or offal from poultry with ornithosis. (*See* Title 9, CFR, Part 82 for more detailed information.)

Poultry disease outbreaks that manifest unusual virulence suggestive of an exotic disease, such as fowl plague or Exotic Newcastle disease, should be immediately reported to the appropriate State and Federal disease control officials. Live poultry affected with or exposed to these diseases or carcasses so affected, may not be moved interstate for any purpose. (*See* Title 9, CFR, Part 81 for more detailed information.)

PSEUDORABIES

Pseudorabies, also known as "mad itch" and Aujeszky's Disease, is a herpesvirus infection transmissible naturally or experimentally to most mammals and birds. Man, higher apes, and reptiles appear to be resistant. Until recently the virus in swine exhibited an ideal host-parasite relationship in that only rarely did it cause illness. However, it occasionally spilled over into other species as the fatal disease, "mad itch," first reported in the United States in 1813. The first scientific report of the disease was made by Aujeszky in 1902 in cattle and subsequently in a dog and a cat. Shope in 1931 serologically connected mad itch and Aujeszky's Disease. Illness in swine was rarely reported until a virulent form appeared in Europe in the 1950's and in the United States in the 1960's. Since that time the prevalence and severity of the disease appears to be increasing. The disease has been reported in most of the States of the United States.

Many European countries instituted vaccination programs early. Vaccination did not prevent outbreaks and losses. At least one country, Hungary, is abandoning vaccines and will attempt eradication. Denmark is a notable exception in that the use of vaccines was never permitted because they were considered to entail unacceptable risks. A modified live pseudorabies vaccine is available for use in the United States and several killed vaccines are being researched. One killed vaccine is being field tested.

Since pseudorabies can occur in swine with few, if any, visible symptoms, hogs serve as a natural reservoir for the disease. Pseudorabies may cause death losses of up to 100 percent in pigs less than 2 weeks of age. Swine can transmit pseudorabies to cattle and sheep. There is some evidence of lateral transmission in closely confined flocks of sheep.

In swine, pseudorabies can cause sows to abort or produce stillborn or mummified feti. In baby pigs, pseudorabies may cause sudden death with few clinical signs. More often, death is preceded by fever which may exceed 105°, dullness, loss of appetite, vomiting, weakness, lack of coordination, and convulsions. When vomiting and diarrhea occur, the disease in baby pigs closely resembles transmissible gastroenteritis (TGE).

After 3 weeks of age, pigs usually develop a degree of resistance to the disease, and death losses may decrease from about 50 percent in pigs exposed when 3 weeks old to less than 5 percent in pigs exposed when 5 months old. Death losses vary with different strains of the virus, and even in grown pigs severe death losses occasionally occur.

Pseudorabies is usually spread by direct hog-to-hog contact. Natural infections probably enter via the nasal passages during inhalation or into the oral cavity by ingestion. The primary site of viral replication appears to be the upper respiratory tract. The virus is then shed in nasal discharges and airborne droplets.

Pseudorabies is usually introduced into a herd by the purchase of an infected hog. The role of pets and feral animals is not clear but appears to be a factor within endemic

areas. Owners of infected herds, on occasion, allege having seen ill wild animals on their premises prior to an outbreak.

Unique disease characteristics relevant to control and/or eradication are:

1. There is no solid immunity from having the disease. Infected swine must be considered to be carriers and potential shedders of the virus.
2. Infection in swine may be asymptomatic or be mistaken for another disease. Thus, it may spread within a herd without being recognized.
3. Shedding of virus is intermittent—the source of infection may be difficult to establish as carrier swine may be in a herd for months prior to transmitting the disease to susceptible animals.
4. Infection once established in swine herds tends to be latent for long periods and then recur.

Pseudorabies is a developing program and regulations are in the process of being promulgated.

SALMONELLOSIS

Salmonellosis is the most frequently reported bacterial disease in the United States that is common to man and animals. During the past decade epidemiological investigations indicate that a transmission of Salmonella from animal feeds to animals and animals to animal products (for human food) to man occurs. (Livestock and poultry feed ingredients from animal and marine sources were found to have the highest Salmonella contamination rate in a 1967 State-Federal survey for Salmonella in animal feeds at basic feed mills.)

SCABIES PROGRAM

Psoroptic sheep scabies has been eradicated from the United States. Efforts to control scabies began in the 19th century, but are usually marked from June 1, 1905, when all territory west of the eastern border of North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas was placed under quarantine. The last case was confirmed January 1970 in a flock of eight head in New Jersey.

Eradication of psoroptic cattle scabies also began in the 19th century. A quarantine was established in 1905 on all territory west of the Mississippi River and the eastern border of Minnesota. The program progressed satisfactorily and many people believed it had been eradicated when the disease was not reported for 3 years, beginning in 1951. A total of 419 outbreaks were reported from 1954 through FY 1975.

The program provides for diagnosis through isolation and identification of the mite, premises quarantine under State authority, supportive area quarantine under Federal authority, supervised treatment with permitted pesticide to eliminate the infection, and detailed epidemiological investigation. All States are notified of each outbreak to alert them of the danger.

Program activities and costs vary widely from year to year. The fluctuations are created by response to outbreaks and return to less activity following periods of outbreaks.

Losses were estimated at $46 million annually before the eradication program began. Cost of the disease in FY 1972, when 91 outbreaks were reported, range from $30 to $75 million.

Federal program expenditures have dropped to approximately 1.25¢ per animal for scabies eradication and was, in fact, less than 1¢ per head in FY 1975.

The development of large contract feedlots and the movement it involves has seriously complicated epidemiological investigation.

The greatest problem area has been the Southwest. Future activities will be directed there.

SCABIES

Scabies is very old. Nearly 300 years ago, Italian scientists Bonomo and Cestoni reported work on the relationships of scabies mites to the disease.

It is a contagious skin disease caused by *Psoroptes bovis, Chorioptes bovis, Sarcoptes scabei, Demodex folliculorium,* and *Psorergates bos mites.*

Scabies and mange may occur at any time of year. It is transmitted by contact either directly with an infected animal or indirectly by contact with contaminated fences, vehicles, or equipment.

The onset of the disease is marked by the animal's response to the irritation caused by the mites. Itching usually is more intense in psoroptic or common scabies, and sarcoptic mange than in chorioptic mange.

PSOROPTIC SCABIES: Serum oozes from wounds, and scabs normally begin to form 15 to 45 days after mites get on the host. The entire body may become involved. The incubation period for the other scabies is longer.

SARCOPTIC MANGE: The sarcoptic mites pierce the upper layer of the animal's skin and make a burrow underneath. Mating and ovipositing take place in the burrow.

CHORIOPTIC MANGE: Chorioptic mites may attack any part of the body; they often infect the escutcheon first. The wounds are small, and the skin under the thin scabs is only slightly swollen and inflamed.

DEMODETIC MANGE: The lesions of demodectic mange in cattle appear as nodules in the skin which may not be detected in a heavy haircoat. The mites apparently do not cause affected cattle to rub or scratch.

PSORERGATIC ITCH: A new mite species, *Psorergates bos*, the cattle itch mite, was first reported in 1963.

All animals are susceptible to scabies and mange. There is no immunity following infection.

Diagnosis is made by visual examination of scrapings taken from the lesion. The mites collected are morphologically identical, regardless of the type of host. The psoroptic mite measures 0.8 mm in length, the sarcoptic mite 0.5 mm, the chorioptic mite 0.4 mm, and the psorergatic mite 0.15 - 0.2 mm.

Treatment may be safely and effectively accomplished by dipping all animals in a herd or flock in a "permitted" pesticide twice with a 10- to 14-day interval.

Psoroptic mites can be transferred from cattle to sheep or vice versa in the laboratory. This proved to be no problem in the field. The life cycle for the psoroptic mite is egg to egg in 10 days.

SCRAPIE

Scrapie is an infectious, chronic, degenerative disease of sheep and goats with an onset that is difficult to detect. An owner may first notice only unusual behavior in affected sheep. The veterinarian must become adept to recognizing early signs and be qualified to explain in detail to the owner the characteristics of the disease.

The diagnosis of scrapie is based on signs, history, and histopathological findings. The disease appears most frequently in sheep 2 to 4 years old and seldom in sheep under 18 months of age. A clinical diagnosis of scrapie is confirmed by demonstrating vacuoles in neurons of the medulla on histopathological examination. The disease should be differentiated from listeriosis, Aujeszky's disease, rabies, pregnancy toxemia, and scabies.

Scrapie was first diagnosed in the United States in a Michigan flock in 1947. The disease has now been diagnosed in 218 flocks in the States of Alabama, California, Colorado, Connecticut, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming. Of the affected flocks, 10 were of the Cheviot breed, 3 of the Hampshire breed, 202 of the Suffolk breed, and 1 crossbreed flock.

The cause of scrapie has been a subject of controversy for many years. The consensus of most research workers of today is that scrapie is caused by a transmissible agent, that it is a communicable and infectious disease, and that its spread from affected to healthy animals is controlled by the genetically inherited resistance or susceptibility of the individual animals exposed to the causative agent. The infectious agent of scrapie can be readily demonstrated through artificial inoculation by nearly any route from many of the body tissues of naturally affected sheep and goats. The disease has a wide artificial host range that is growing. Scrapie has been transmitted by inoculations to sheep, goats, mice, rats, moles, hamsters, gerbils, deer mice, mink, ferrets, and the following monkeys: rhesus, cynomolgus, squirrel, spider, and capuchina. The fact that scrapie is readily transmissible to such a large host range, and particularly to the subhuman primates, has caused a great deal of concern in the scientific community of both the human and veterinary field regarding the human health hazard of this disease.

The natural disease has now been transmitted by contact to healthy Angora and Angora crossbred, Nubian and Nubian-cross-Toggenburg goats, and Hampshire, Rambouillet, Suffolk, and Targhee sheep born and reared in contact with a succession of scrapie-affected Cheviot and Suffolk sheep at Mission, Texas.

The State-Federal Cooperative Eradication Program now recognizes both the infectious disease theory and the inheritable resistance of susceptibility of the animal to scrapie. The program provides for the slaughter of infected and source flocks and all exposed animals sold from these flocks. However, the handling of other than directly exposed animals moved from such flocks and animals related to scrapied animals has been changed to provide more emphasis on spread through females and less emphasis on spread via the sire. The program provides for slaughter of all lambs or kids born of scrapie-affected rams or ewes, bucks or does. The succeeding generation of ewes and does descending from the scrapie ewe or doe are also slaughtered. The dam of a scrapied animal and exposed ewes and does are slaughtered and all lambs or kids born of such females are slaughtered. Flocks from which bloodline or exposed animals have been slaughtered are placed under surveillance and inspected semiannually for a period of 42 months after last exposed.

When scrapie is suspected, animal health officials should be notified immediately. The suspected animal should not be slaughtered until the officials have had an opportunity to observe the clinical signs and have determined that the case has advanced sufficiently so that satisfactory specimen of brain tissue can be obtained for laboratory examination.

SCREWWORMS

Screwworms are the large larvae (maggots) of the fly, *Cochliomyia hominivorax*. They are true parasites, feeding only on the living flesh of warmblooded animals. Infested, untreated animals may die.

Screwworms are natives of tropical and subtropical areas of North and South America. They were first reported in the Southwest almost 150 years ago. In 1933, screwworms were reported in Georgia, presumably introduced on infested animals from the Southwest. They spread rapidly and within 2 years were found throughout Florida and southern Georgia. Each summer, they would spread into Georgia, Alabama, South Carolina, and other Southeastern areas, but the mild winter climate of peninsular Florida and, occasionally southern Georgia, Alabama, and South Carolina permitted them to exist through the winter. The most favorable climatic conditions of the United States for the year-round existence of the screwworm are the southern part of Florida and southern Texas. Surveys revealed annual losses from screwworms of approximately $20 million in the Southeast. About one-half of this loss occurred in Florida.

During 1958-59, an eradication program was conducted over 85,000 square miles in Florida, Georgia, and Alabama with the production and release of more than 3 billion laboratory-reared screwworm flies sterilized with radioactive Cobalt-60. The mating of the laboratory-reared sterile males with native females resulted in the production of eggs that failed to hatch. Continued release of irradiated males in overwhelming numbers eventually reduced the native screwworm population in the Southeast to zero. Mass production and dispersal of sterile flies ended in November 1959. The cost for this successful eradication program was approximately $10 million or about one-half of the cost of living with screwworms each year.

During the eradication program, a livestock inspection line was maintained along the eastern border of Arkansas and Louisiana to protect the Southeastern States from becoming reinfested with screwworms from the self-sustaining populations of the Western States. This inspection was discontinued in June 1964.

In the spring of 1962, a program was started to eradicate screwworms from Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. This was a much more complex and difficult undertaking than the elimination of the pest from the Southeastern States. In the Southeast, screwworms usually were able to survive through the winter only in peninsular Florida. Water on three sides and cold weather on the north acted as effective barriers. The Southwestern States have no such advantages. The screwworm population in the Republic of Mexico provides a constant threat of reinfestation.

A barrier zone was established along the United States-Mexico border to protect the area from reinfestation. This barrier zone is formed by continuous release of sterile screwworm flies to prevent the invation of native flies that could establish a self-sustaining new population. The Southwestern States of Texas, New Mexico, Oklahoma, Arkansas, and Louisiana were declared to be free of screwworms in February 1964. However, sporadic outbreaks have occurred since that time caused by migrating flies and movements of infested animals. Each outbreak has been successfully suppressed.

In the spring of 1965, eradication efforts were initiated in Arizona and California, and the artificial sterile fly barrier zone along the Mexican border was extended to the Pacific Ocean.

In spring of 1966, California and Arizona were declared free of screwworms.

It was estimated that screwworms caused an average annual loss of $100 million to the livestock industry before the beginning of the screwworm eradication program. Cost of

the maintenance of the sterile screwworm fly barrier has been about $10 million a year. On August 28, 1972, the Secretaries of Agriculture from the United States and Mexico signed an agreement to eradicate screwworms from Mexico and establish a barrier zone at the Isthmus of Tehuantepec. This program is estimated to take about 5 years and upon completion would provide substantially more protection from screwworm invasion into the United States. Following a 4-year effort, screwworms were declared eradicated from Puerto Rico and the Virgin Islands on July 2, 1975. Sterile flies were transported from the Mission, Texas, plant and dispersed over Puerto Rico and nearby areas by the U.S. Air Force and U.S. Air Force Reserves. Knowledge gained in this effort will be valuable in the eradication of screwworms from Mexico.

Veterinarians should be alert for cases of myiasis when they treat animals or issue health certificates. When dipterous larvae are found, animal health officials should be immediately notified and specimens collected for identification at the National Veterinary Services Laboratories, Ames, Iowa. The interstate movement of livestock infested with screwworms is unlawful. For regulations concerning interstate shipment of screwworms, see CFR, Title 9, Part 71 and Part 83.

TRICHINOSIS

Trichinosis is worldwide in distribution and has most likely affected man as well as animals for several hundred years. Cost for the control (meat inspection, special processing) of this parasite has probably exceeded by more than 100 times the combined amount spent for all other helminthic diseases. Infection in our Nation's swine is at an all-tie low, with recent surveys having disclosed an infection rate of less than 0.2 percent in grain-fed hogs and only 0.5 percent in cooked-garbage-fed hogs. Hogs fed raw garbage have a much higher incidence of trichinosis infection.

A recently developed technique for identifying trichinae infected swine at slaughter appears to have merit as a tool in the eradication of this disease. In this technique, diaphragm samples are collected and one half of each is pooled into groups of twenty. These are subjected to digestion technique, then examined microscopically. If trichinae are found, each remaining half of diaphragm sample of the 20-sample lot is tested in order to identify the infected animal.

Studies to date indicate this method is practical and will assist in providing trichinae-free pork. The method will also provide a traceback system under which trichinae-infected herds can be identified, providing a means to eliminate these foci of infection.

BOVINE TUBERCULOSIS ERADICATION

The Program

The cooperative State-Federal bovine tuberculosis eradication program began in 1917. At that time, tuberculosis caused more losses among farm animals than any other infectious disease. Economic losses to farmers, stockyards, packers, and transportation agencies, as well as the dangers to human health, led to the demands for an organized program to eradicate the disease. The program was established with the long-range objective being the total eradication of bovine tuberculosis from the Nation's livestock. To obtain this objective, procedures were adopted as follows:

1. All cattle were to be tuberculin tested every 6 years.

2. All reactors to the tuberculin test were to be slaughtered and subjected to necropsy.
3. All infected premises were to be cleaned and disinfected.
4. Animal movements were to be traced into and from infected herds to determine where the infection originated and where it may have spread.

When an area succeeded in reducing the reactor rate among cattle to less than 0.5 percent, it was to be designated as a modified accredited area. Through diligent application of the procedures adopted, all counties in the United States attained this status by 1940. The incidence of bovine tuberculosis was reduced from approximately 5 percent to less than 0.5 percent. In some areas the infection had been over 50 percent. In 1977, the infection rate as measured by the tuberculin test was less than 0.08 percent. The prevalence of the disease as measured by the number of carcasses showing lesions of tuberculosis at the time of regular slaughter (excluding reactors) was reduced from 2,100 per 100,000 cattle slaughtered under Federal meat inspection in 1917 to less than 0.3 per 100,000 cattle claughtered under Federal inspection in 1977.

When the country was first designated as modified accredited in 1940, this led to the belief that the objective had been reached and tuberculosis had been eliminated from the cattle population. Despite the vigorous application of established procedures since the beginning of the program, tuberculosis has not been eradicated. The disease occurs in all sections of the country. Foci of infection are monitored constantly by the tuberculin test and by traceback to herds of origin of cattle found to have lesions of tuberculosis at time of regular kill.

Federal regulations concerning bovine tuberculosis eradication are found in the Code of Federal Regulations, Title 9, Chapter I, Subchapter B, Part 50, and Subchapter C, Parts 71 and 77.

The tuberculosis eradication program in each individual State is conducted under the laws and regulations of that State. The Uniform Methods and Rules- Bovine Tuberculosis Eradication are used as a guide. These methods and rules are adopted by the United States Animal Health Association (USAHA) and approved by Veterinary Services, APHIS, USDA. Amendments to these methods and rules are considered by the USAHA annually. Additional measures are added to the program to achieve tuberculosis eradication as they become necessary. The current program includes the use of post-mortem findings by meat inspection. Stress is being placed on tracing animals which show lesions of tuberculosis at the time of slaughter to their herds of origin, locating the origin of reactors, and followup of exposed animals that were removed from infected herds before the animals were found to be infected. Emphasis is placed on liquidating herds with known Mycobacterium bovis infection. The provision for Federal indemnity payments for exposed animals when the entire infected herd is slaughtered has been available since 1963. This permits the liquidation of nonreacting animals to the tuberculin test in a herd where it has been determined that liquidation of the entire herd will contribute to the tuberculosis eradication program. Provision is also made for the destruction with Federal indemnity of certain specified exposed animals such as calves nursing reactor dams and cattle sold from known *M. bovis* herds prior to the infection being detected.

Services of Accredited Veterinarians

The accredited veterinarian is an intrinsic and important part of the tuberculosis eradication program and contributes to the eradication effort while providing professional services to the client. Clients depend on the accredited veterinarian's advice regarding the

prevention and eradication of the disease on a farm basis. The State and Federal animal disease control officials depend on the accredited veterinarian for surveying herds and areas for tuberculosis, for diagnosing the disease, and for informing clients about tuberculosis and the eradication program.

The accredited veterinarian is expected to know the laws and regulations of the State regarding tuberculosis and to be thoroughly familiar with the eradication program. He must be able to:

1. Accurately inform herd owners about the program and the disease.
2. Accurately identify all herds and animals tuberculin tested and make complete records on standard forms regardless of reason for the test.
3. Accurately record tuberculin test information and animal identity on Interstate Health Certificates when certifying animals for such movement.
4. Make diagnosis on the proper reading date in accordance with the Uniform Methods and Rules—Bovine Tuberculosis Eradication.
5. Record on the test chart, for future epidemiology purposes, ALL responses or deviations from normal that are observed while reading the test regardless of the classification of the animal as Reactor, Deviator, or Negative.
6. Tag, brand, and appraise reactors.
7. Issue necessary forms, such as quarantine notices and permits, for movement of reactors to slaughter.
8. Instruct owners concerning the disinfection of premises.
9. Inform owners about indemnity payments.
10. Instruct owners about management practices aimed at avoiding the recurrence of the disease.
11. Leave copies of test reports with owners.
12. Make honest effort to obtain herd histories, particularly as they relate to animal movements into and out of infected herds, and promptly report such information.
13. Submit promptly all test reports and allied or supporting papers to the State-Federal Cooperative Program Office.
14. Seek assistance from State and Federal veterinarians when in doubt about any phase of the program.

The Tuberculosis Test

Restraint.—Each animal must be effectively restrained by nose lead or other means. A good injection is imperative. This is impossible if an animal moves when the needle is inserted. Nose leads should be thoroughly washed in disinfectant solution between animals.

Injection Site.—The site is the skin of the caudal fold at a point two-thirds of the distance from the base of the tail to the end of the fold. Either side may be used. It is advisable, however, to use the same side habitually.

Before the injection is made, the caudal fold is examined for abnormalities that might confuse observations. These are noted and indicated to the owner.

The site is cleaned with dry cotton or cotton moistened with alcohol. Strong disinfectants may cause irritation and confuse test interpretations.

Injection Technique.—Before use, the syringe is checked for leakage, needle gauge, and exposure, and adjustment for delivery of accurate tuberculin dosage. In routine testing, the tuberculin dosage is 0.1 cc.

In filling the syringe, air bubbles should be eliminated. An accurate test reading requires a careful injection. The 26-gauge, 3/8-inch needle is inserted between the layers of

skin, then withdrawn slightly. The injection should be intradermal, never subcutaneous. The needle is cleaned with cotton moistened with alcohol between each injection. Permit the alcohol to dry before making an injection.

Animal Identification.—If an animal does not have a tag, it is identified by inserting an official passed tag in the right ear. Record the tag number or tattoo for each animal on the test chart. The owner shall be informed of the number of cattle under test and advised that they are to be isolated and retained on the premises until observations are made in 72 hours.

Observation of Test.—Observations are made 72 hours after injection plus or minus 6 hours. The eartag or tattoo is to be read at the time of observation if there is a question as to whether the animals being read are the ones that were injected. The animals must be so restrained that the injection site can be both observed visually and palpated. Visual observation alone is an improper and unacceptable procedure.

Failure to observe and palpate every animal, as well as hurried and careless interpretations, will cause tuberculosis to be missed, bringing discredit to the veterinary profession and doing a disservice to the herd owner.

Interpretation and Classification.—Tissue disturbance at the injection site may vary from barely perceptible to a swelling the size of a fist. It may be hard and circumscribed, or soft and infiltrated with no distinct line of demarcation. *There is no type that is characteristic of M. bovis infection.*

Neither size, shape, nor appearance of the tissue response reflects the degree of infection. Therefore, all deviations from normal in the test site noted by the veterinarian when reading the test must be recorded on the test charts and reported to State-Federal program officials. Unless the herd being tested is at high risk of being infected, all animals with tuberculin response should be classified as suspect or deviator and reported immediately to regulatory officials so a comparative-cervical test can be conducted.

Recording and Reporting Response:

All responses—deviations from normal—are recorded as symbols in the observations column of the test report.

- P1 is the standard symbol for a circumscribed swelling the size of a small pea (3/16 inch, or 5 mm, diameter), in addition to normal skin thickness.
- P2, P3, P4, etc., refer to circumscribed swellings two, three, or four times the diameter of a small pea.
- PP is a "pin-point" circumscribed swelling smaller than P^1.
- X is the standard symbol for a diffuse swelling which is less than twice the thickness of the skin of the normal caudal fold.
- X2 is a diffuse swelling equal to twice the thickness of normal fold of skin.

(1) The Negative ("N") Classification:

- Animals with no tissue response are classified as negative.
- Animals showing minimal response may also be considered as negative, provided: (a) There are no reactors on the current test, (b) no lesions of advanced tuberculosis were demonstrated on previous tests, and (c) that the animals are not those in a retest of accredited herds or in herds qualifying for accreditation, and are not intended for sale, show, or interstate shipment. The minimal response must be recorded on the test chart even though the animal is classified Negative.

(2) The Suspect ("S") Classification:

- This is a broad classification. It is to be used for animals showing doubtful response to tuberculin which, in the professional judgment of the testing veterinarian, should not be classified as reactors, but shall be retested by a regulatory veterinarian with the comparative-cervical test either within 10 days or after 60 days.

(3) The Reactor ("R") Classification:

- Animals showing a circumscribed swelling 5 mm in diameter (3/16 of an inch) (P_1) or a diffuse swelling twice as thick as the normal caudal fold (X_2) or greater response to tuberculin on routine test may be classified as reactors, unless, in the professional judgment of the testing veterinarian, a suspect classification is justified.

INTERSTATE AND INTRASTATE MOVEMENT OF LIVESTOCK

The early warning line in the protection of the Nation's animal food supply is the veterinarians on the ranches and farms. The second defense is the veterinarians at the centers of livestock concentration—stockyards and livestock markets—along all lines of transportation.

Accredited veterinarians at ranches and farms:

- Inspect, test, vaccinate, administer treatment, and perform other veterinary functions in accordance with State and Federal regulations, and with eradication program standards.
- Advise owners and shippers of the regulatory requirements of the State of destination.
- Issue certificates, after inspection, attesting to the health of animals to be moved interstate and intrastate according to State and Federal regulations.
- Ensure, before a certificate is issued, that reactors are properly tagged and branded and that the approved destination of animals is placed on VS Form 1-27.
- Cooperate with animal disease eradication officials in carrying out and enforcing State and Federal regulations.
- Issue health certificates, after inspection, attesting to the health of the animals presented for shipment and ensuring that diseased or uninspected animals are not included in the certification.
- Tag and brand reactor animals, when required by program standards, and issue proper permits for movement (VS Form 1-27 or similar document).
- Cooperate with and support State and Federal veterinarians in carrying out and enforcing animal health regulations.
- Report the presence of reportable diseases.

The designation of specifically approved stockyards and livestock markets was authorized under Federal regulations on January 1, 1957.

In addition to specifically approved yards and markets, those markets moving animals in interstate commerce are required to post their tariffs by the Packers and Stockyards Administration. Such posted markets are required to keep records of animals, weights, and transactions.

Accredited veterinarians at specifically approved and P & S posted markets:

- Make careful inspection of animals, before issuing certificates, to ensure that only healthy animals are permitted to be moved.
- Promptly notify State or Federal officials concerned whenever evidence of a reportable communicable disease is found.
- Supervise the proper disposition of exposed and diseased animals.
- Supervise the cleaning and disinfecting of pens, premises, and vehicles that have contained diseased animals.
- Test, vaccinate, and issue certificates of animal health to comply with Federal regulations, as well as those of the State of destination.
- Inspect animals for compliance with Federal regulations.
- Issue certificates that are clear, accurate, and legible, and make prompt distribution of these as required by State and Federal regulations.

Practically all States have health requirements governing the admission of animals from other States and laws and regulations controlling the movement of livestock within the State. Accredited veterinarians should be familiar with State and Federal regulations on livestock movements. These are set forth in APHIS 91-17-7 "Health Requirements and Regulations Governing the Interstate and International Movement of Livestock and Poultry," published by APHIS, U.S. Department of Agriculture.

Unqualified acceptance and conscientious performance of all duties involved in the interstate and intrastate movement of livestock is a basic responsibility of accredited veterinarians.

BIOLOGICS

Licensing and Permits

Veterinary biological products that enter interstate commerce must be produced under and in compliance with the Virus-Serum-Toxin Act of March 4, 1913. All such biological products must be produced by an establishment holding valid licenses issued by the U.S. Department of Agriculture (USDA). Products from foreign countries cannot be imported into the United States unless the importer has a permit issued by the USDA.

Control Activities

Regulations are issued so that licensed producers, as well as Government enforcement personnel, know the necessary requirements for compliance with the Virus-Serum-Toxin Act. All establishments holding U.S. veterinary licenses are subject to inspection by USDA personnel.

Standards and Product Testing

Standards are established to insure that all licensed products are pure, safe, potent, and efficacious. National Veterinary Services Laboratories, Ames, Iowa, develops test methods and conducts tests of each product before a license is issued. Tests are also conducted on market serials to ascertain the validity of the manufacturer's test results. Products that do not pass all required tests are not released for distribution.

Labels

All labels used on licensed veterinary biological products must be approved by the Department of Agriculture and must contain the following information: (1) true name of product, (2) identity of the licensee or permittee, (3) license or permit number, (4) storage temperature recommendations, (5) full instructions for use, (6) serial number and expiration date, and (7) appropriate warnings. Labels and advertising material must not contain any information which is false or misleading.

DIAGNOSTIC SERVICES

The National Veterinary Services Laboratories located at Ames, Iowa, and Los Alamos, New Mexico, provide laboratory support to the programs of Veterinary Services.

These programs are: Newcastle Disease, Venezuelan Equine Encephalitis, tuberculosis, hog cholera, brucellosis, import-export, scabies, scrapie, equine piroplasmosis, animal care, equine infectious anemia, screwworm, anaplasmosis, salmonella, ticks, mycoplasms, and reference assistance.

This assistance is provided through nine laboratory disciplines: biologic reagents, bacteriology, virology, histopathology, toxicology, chemistry, serology, parasitology, and clinical pathology.

Laboratory services are designed to:

- Provide diagnostic laboratory support to Veterinary Services Programs.
- Develop, standardize, and evaluate new and improved procedures, techniques, and reagents used in diagnosing animal diseases.
- Develop and carry out scientific training programs for State and Federal regulatory and diagnostic personnel through formal courses, on-the-job training, and reference training visits to State diagnostic laboratories.
- Produce and standardize biologic reagents for the diagnosis of animal diseases.
- Establish and maintain reference centers for the classification and identification of pathogenic agents.
- Develop and maintain diagnostic reference assistance and consultation services for Veterinary Services field stations, State diagnostic laboratories, university research personnel, and foreign scientists.
- Investigate selected animal disease conditions in the field and followup with definitive studies in the laboratory.
- Develop a biometrical reporting system for animal diseases that will provide accurate information such as morbidity and mortality rates, geographical distribution, seasonal incidence, and rate of dissemination.
- Develop automated systems for surveillance and diagnostic activities.
- Develop standards and tests, and evaluate chemicals used in control of external parasitic diseases. Identify external parasites and provide technical instruction regarding control.
- Develop new methods and equipment for use in all applications of mechanical devices to programs.
- Assemble and distribute disease morbidity and mortality information as monthly summaries and prepares studies related to specific diseases.

- Provide Veterinary Services with guidance on all entomological aspects of animal diseases and participate in programs to combat vector-borne animal diseases.
- Maintain chemical reference services for all commercial products permitted by Veterinary Services for the control and eradication of animal diseases.
- Maintain inhouse stock of printed matter and informational material and supplies biologics produced or purchased by Veterinary Services for field use.

Details of specific tests or procedures used and how to obtain services are provided in the Veterinary Services Laboratory Reference Manual (formerly Reference Assistance Manual for Diagnostic Services).

Laboratory support is also available locally. See the Directory of Animal Disease Diagnostic Laboratories for a complete listing of Laboratories and the service available.

Laboratory support for State-Federal Cooperative program activities is available from National Veterinary Services Laboratories in Ames, Iowa, to accredited veterinarians after clearance with the Veterinarian-in-Charge of animal health activities within the State.

CLEANING AND DISINFECTION

Cleaning

Cleaning is the thorough mechanical removal of gross waste.

Thorough cleaning cannot be overemphasized in any disease eradication effort.

- All bedding, manure, and accumulated waste should be removed.
- Surfaces should be thoroughly cleaned by scrubbing, sand blasting, steaming, or by the use of high pressure water and suitable detergent mixtures.
- Surfaces are flushed with clean water and a disinfectant applied, preferably with pressure spray at 90 to 120 pounds per square inch.

Disinfection

Disinfection is the chemical destruction of pathogenic organisms.

- For destruction there must be contact. There can be no contact of disinfectant with organisms through organic debris. Disinfection, therefore, must be preceded by thorough cleaning.
- Disinfectants should be handled with care, mixed according to instructions, and disposed of properly.

Responsibilities

- Accredited veterinarians engaged in disease eradication or control programs should see that premises, equipment and vehicles are cleaned and disinfected. At the time reactors are tagged, branded, and appraised, it is the duty of the accredited veterinarian to explain in detail and to demonstrate to the farmer or the trucker the proper cleaning of premises, equipment, and vehicles.

Precautions in Use

Lye.—Lye is very caustic. It will burn skin and corrode metal. It should be handled carefully. Rubber boots should be worn. Lye will destroy many micro-organisms and is a good cleaning agent. However, it is *not* effective against the tubercle baccillus and is *not* a permitted disinfectant against tuberculosis.

Sodium orthophenylphenate.—For effective disinfection, this solution must be applied at a temperature of 60° F. or higher. Whenever the temperature falls below 60° the solution must be heated to at least 120°. This material is not effective when preceded by cleaning with sodium hydroxide (lye) or other highly alkaline solutions. Containers should be tightly closed to prevent deterioration.

Spray equipment.—When mechanical spray equipment is used for disinfecting, the electricity in the building always should be disconnected. This is a safety precaution to prevent fire and to prevent possible electrocution of the operator.

Recommended Spray Mixtures

Disinfectant	Percent solution	Mixtures	Disease
Cresylic[1]	4	4 oz. to 1 gal. water.	Brucellosis. Fowl plague. Hog cholera. Newcastle disease. Shipping fever. Swine erysipelas. Tuberculosis. Vesicular exanthema. Vesicular stomatitis.
Sodium carbonate (soda ash)	4	1 lb. to 3 gal. water.	Foot-and-mouth disease.
Sodium hydroxide (lye) Caustic soda	2	13½ oz. can to 5 gal. water.	Hog cholera. Foot-and-mouth disease. Scrapie.
Sodium orthophenylphenate (USDA approved)	1 2	1 lb. to 12 gal. water 2 lbs. to 12 gal. water.	Brucellosis. Fowl plague. Hog cholera. Newcastle disease. Tuberculosis. Vesicular exanthema. Vesicular stomatitis.
Sodium hydroxide (lye)	5	5 (13½ oz.) cans to 10 gal. water.	Anthrax. Blackleg.

[1] See Code of Federal Regulations, Title 9, Part 71.10 and permitted list under ANH Division Memorandum No. 586.1.

IMPORTATION OF ANIMAL PRODUCTS AND BYPRODUCTS

Regulations

Imported meats, animal byproducts, and related materials may be a means of introducing foreign animal diseases into the United States. The Department of Agriculture has regulations governing the importation of such products designed to minimize this risk. These regulations are administered by Veterinary Services. They are covered in The Code of Federal Regulations, Title 9, in the following parts:

- *Part 94*—Rinderpest, foot-and-mouth disease, swine vesicular disease, hog cholera, Newcastle disease (avian pneumoencephalitis), and African swine fever. Prohibited

and restricted importations—prohibits the importation of cattle, sheep, other ruminants, or swine, or of fresh, chilled, or frozen meat of ruminants and swine from any country declared by the Secretary of Agriculture to be infected with foot-and-mouth disease or rinderpest. The regulation also has sanction in Federal law, Section 306a of the Act of June 17, 1930. The Department amended the regulations in October 1972 and July 1973, with respect to the importation of live swine and pork and pork products from all countries designated as infected with hog cholera or swine vesicular disease. The action imposed a prohibition on live swine and on fresh, chilled, or frozen pork or pork meat products. Certain restrictions were placed on processed pork and pork meat items. In January 1973, the Department amended the regulations applicable to the importation of poultry carcasses or parts or products thereof and eggs, other than hatching eggs. The action prohibited, with certain exceptions, the importation of fresh chilled or frozen poultry carcasses from most countries. It placed tight restrictions on shipments of imported table eggs. The action was taken to provide our poultry industry with protection against exposure to exotic Newcastle disease.

- *Part 95*—Sanitary control of animal byproducts (except casings), and hay and straw, offered for entry into the United States.
- *Part 96*—Restrictions of importations of foreign animal casings offered for entry into the United States.

Animal Products

Millions of pounds of meat are imported each year from countries that are considered to be infected with foot-and-mouth disease, swine vesicular disease, hog cholera, and/or Newcastle disease as well as lesser amounts from African swine fever-infected countries. All such meat is subject to specific processing requirements as contained in 9 CFR 94 to qualify for entry into the United States. These requirements are in addition to the sanitation and wholesomeness requirements for human consumption that are administered by Meat and Poultry Inspection Programs.

Veterinary Services is also concerned with all products and byproducts that come from countries where rinderpest, foot-and-mouth disease, African swine fever, hog cholera, swine vesicular, or exotic Newcastle are known to be present. Accordingly, unless effective and acceptable processing has been done in the country of origin, such materials from infected countries are permitted entry only under restrictions.

In the case of bone, horns, hoofs, and bonemeal—usually imported for agricultural uses—there is the additional risk of anthrax. Since anthrax is present throughout the world, to prevent its further incidence in U.S. livestock, all bones and bone products are permitted entry under restrictions.

Entry under restrictions is meant:

- Inspection of cargo at dockside.
- Supervision of the loading of the restricted products on railroad cars or motor trucks.
- Sealing transporting vehicles with Government seals.
- Release of shipments to processing establishments previously approved by Veterinary Services, APHIS.

IMPORT–ANIMALS, ANIMAL SEMEN, POULTRY, BIRDS, AND HATCHING EGGS

Regulations

The Department of Agriculture's regulations administered by Veterinary Services to prevent the introduction of foreign animal diseases into the United States are contained in the following parts of The Code of Federal Regulations, Title 9:

- *Part 92*–Importation of certain animals, animal semen, poultry, birds, and hatching eggs.
- *Part 94*–Rinderpest, foot-and-mouth disease, fowl pest (fowl plague), Newcastle disease (avian pneumoencephalitis), African swine fever, hog cholera, and swine vesicular disease: Prohibited and restricted import animals including poultry.

Purpose

These two regulations are evidence of an alertness to the dangers accompanying the importation of certain animals, animal semen, poultry, and hatching eggs. There is increasing awareness of the potential risk from various diseases, such as foot-and-mouth disease, rinderpest, contagious bovine pleuropneumonia, African horsesickness, African swine fever, East Coast fever, heartwater, fowl plague, exotic strains of Newcastle disease, and others, including the tick-borne diseases.

In addition, the Department is required to prevent the introduction of any communicable disease of livestock or poultry whether or not it is exotic to the United States.

Animals Governed by Import Regulations

Cattle, sheep, goats, and other ruminants (animals that chew the cud, such as buffalo, deer, antelope, camels, and llama); also domestic swine and all varieties of wild hogs, horses, burros, mules, zebras, and poultry (including chickens, ducks, geese, swans, turkeys, doves, pheasants, grouse, partridges, quail, guinea fowl, and pea fowl of all ages) and eggs for hatching purposes, pigeons, and all other species of birds.

Prohibited Imports

Current legislation prohibits the importation of cattle, other ruminants, and swine from any country declared by the Secretary of Agriculture to be infected with foot-and-mouth disease or rinderpest. Regulations specify that *wild* ruminants from such countries *may* be imported into the United States and outline the manner in which they may enter. Such animals may be imported for exhibition only and are maintained under permanent post-entry control in zoos specifically approved for that purpose by Veterinary Services for the Department.

Cattle are also denied entry from any country where other serious exotic cattle diseases exist, such as ephemeral fever; and from cattle fever tick-infested areas, such as Australia, countries in Central America, and the islands of the Caribbean. There are legal provisions for certain tick-free cattle to move from tick-infested areas of Mexico into Texas and from the British Virgin Islands into the U.S. Virgin Islands; in the latter case for slaughter only.

Ports of Entry

To provide for the orderly importation of animals, including poultry and birds, and for veterinary inspection service, the Department has designated ports of entry—17 air and ocean, 45 along the Canadian border, and 15 along the Mexican border. Importations must be made through these designated ports, except on specific request when the Deputy Administrator, Veterinary Services, Animal and Plant Health Inspection Service, may designate other ports on a case-by-case basis with the concurrence of the Secretary of the Treasury.

Quarantine Stations

The Department of Agriculture owns and operates the Clifton Animal Import Center for the quarantine of animals, poultry, and birds entering the United States at the port of New York. Veterinary Services operates and leases the Miami, Fla., facility from the local port authority and owns and operates a small facility at the port of Honolulu. Harry Truman Animal Import Center, Key West, Fla., is a new, maximum security facility. At other ports of entry, when quarantine is required, it is the responsibility of the importer to arrange for quarantine facilities subject to the approval of Veterinary Services. Commercial importation of birds may also be handled for purposes of quarantine at one of the privately owned and operated USDA-approved quarantine facilities. There are more than 30 of these.

Basic Import Requirements

An import *permit* must be obtained by the importer from the Hyattsville, Md., office of Veterinary Services, Animal and Plant Health Inspection Service, before animals and poultry are potentially eligible for importation from the country of origin.

Permits are not usually required for animals, or animal semen, or poultry from Canada (unless they have been in countries other than Canada or the United States), for horses from any country, or for ruminants from the northern States of Mexico. However, a permit is necessary on air shipments from Canada. Swine from Mexico are prohibited because of hog cholera.

Certification by a salaried veterinary officer of the national government of the country of origin showing freedom from disease and exposure thereto must accompany shipment to the port of entry.

Veterinary inspection must be given at the port of arrival in the United States.

Quarantine, when required, must be completed for a specified minimum period at the port of entry (30 days for poultry, ruminants, or swine, and 60 days for equine stock from African horsesickness (AHS)-infected countries). New York City is the only port where equine stock from African horsesickness infected countries may be quarantined.

Equine stock from all countries in the Western hemisphere, except Canada and Mexico, must pass 7 days port of entry quarantine. Horses other than those from AHS-infected countries, Western hemisphere countries (except Canada), are quarantined at port of entry long enough to complete inspection and for port of entry tests to be returned from USDA's National Veterinary Services Laboratory at Ames, Iowa. Horses originating in or transiting AHS-infected countries are required to pass a minimum 60-day quarantine at the port of New York in USDA facilities.

Inspection at Port of Entry

Veterinary examination of the animals, poultry, and birds is given by a veterinarian at the port of entry. All animals found to be free from evidence of communicable disease and exposure thereto within 60 days prior to their exportation from the shipping country may be admitted subject to various other provisions. For poultry and birds, the time element is 90 days in lieu of 60 days.

All necessary accompanying papers, such as certificates, purebred documents, and test charts, must be accurate and complete before importation is permitted.

Specific Animals

- Domestic ruminants must be accompanied by a health certificate and, when applicable, a test chart showing negative results to tests for tuberculosis and brucellosis.
- "Horses from all countries except Canada must show negative results to dourine, glanders, equine piroplasmosis, and equine infectious anemia tests on blood samples collected at the U.S. port of entry."
- Dogs subject to the Department's regulations are collie, shepherd, and similar breeds intended for use in the handling of livestock. To determine their freedom from *Multiceps multiceps*, such dogs, except those from Canada, Mexico, and countries of Central America and the West Indies, are examined at the port of entry.
- Wild ruminants and swine (zoo animals) may be imported from a USDA-approved embarkation station in certain foot-and-mouth disease or rinderpest-infected countries, but rigid requirements have been established. One of these is that following release from quarantine at the port of New York, the animals must be consigned only to a Department-approved zoo operating under acceptable standards and under appropriate supervision.

Precautionary Treatment

Certain precautionary treatments of animals against external parasites and the disinfection of accompanying equipment and litter are carried out to further safeguard the livestock of this country.

EXPORT BYPRODUCTS

The Department of Agriculture regulations administered by Veterinary Services for the certification of inedible animal byproducts is contained in Part 156—Inspection and Certification of Animal Byproducts. An explanation of these regulations appear in VS Memorandum 594.1 Certification of Inedible Animal Products.

This regulation provides for the inspection and certification of the class, quality, quantity, and condition of *inedible* animal byproducts, upon request. It also provides authority for the Department to foster and assist in the development of new and expanded markets, both domestic and foreign, and in the movement of agriculture products to consumers in the United States and abroad. Under the provisions of the regulations, Veterinary Services inspectors are authorized on a reimbursable basis to issue and endorse

sanitary certificates to accompany shipments of animal byproducts such as, but not limited to, hides, meat meal, tankage, bonemeal, bones, blood products, feather meal, and inedible tallow.

In order for a Veterinary Services representative to properly issue or endorse these sanitary certificates, he must know the import requirements of the country of destination. It is also necessary that the operation of the processing plant be under direct supervision of an employee authorized by Veterinary Services to perform such inspection service. Only certificates that contain statements that are known to be factual are to be issued and endorsed by representatives of Veterinary Services, APHIS.

This regulation also provides for additional supervision beyond that which can be furnished by the Meat and Poultry Inspection programs, Food Safety and Quality Service (FSQS), USDA, involving the disposition of inedible or condemned materials. These materials are processed under supervision of the Veterinary Services or meat inspection personnel on a reimbursable basis for the preparation of canned pet food and other commercial products.

EXPORT ANIMALS

Regulations

Regulations governing the "Inspection and Handling of Livestock for Exportation" are contained in Part 91. These are minimum requirements and take precedence over the import regulations of the receiving foreign country if the latter are less restrictive.

Purpose

- To promote foreign trade by insuring, as far as possible, that only sound and healthy animals are exported.
- To provide for humane handling and safe transport.

Animals Governed by Export Regulations

Export regulations of the Department are applicable to cattle, sheep, goats, swine, horses, mules, and burros.

When required by the import regulations of the receiving country, certain other animals, poultry, and hatching eggs may be inspected and a health certificate issued.

Foreign Import Requirements

Veterinary Services is familiar with, and has agreements with, several foreign countries on their import requirements. However, requirements of other countries are difficult to maintain. It is the responsibility of the exporter to obtain current information concerning import regulations of the receiving country. Since most foreign countries require that a *permit* or *license* be issued by them before animals may be imported, the requirements that are applicable to a proposed importation are usually included when the *permit* or *license* is issued. Whenever it is determined there are a number of health requirements by a foreign country, the accredited veterinarian should contact the Area Veterinarian-in-Charge, Veterinary Services, if there is any doubt about the animals meeting the requirements.

Inspection at Origin

Veterinary inspection of animals intended for shipment to a foreign country must be made at origin by an accredited veterinarian, a full-time, State-employed regulatory veterinarian, or an APHIS veterinarian. However, the receiving country may require inspection and certification by an APHIS veterinarian. This is true for sheep and goats destined to Canada. Test charts and health certificates should be completed and issued in accordance with specific instructions.

Department export regulations require that all dairy and breeding cattle, except calves born after test of the dam, be tuberculin tested with negative results within 90 days from the date of shipment from the U.S. point of origin.

All cattle (bulls and females) over 6 months of age (except officially brucellosis-vaccinated female dairy cattle under 20 months of age, and officially vaccinated female cattle of the beef breeds under 24 months of age) must be blood tested for brucellosis with negative results in dilution of 1:50 and above within 30 days from date of shipment from the U.S. point of origin.

Besides the tuberculin and brucellosis tests, some countries require other tests for diseases such as paratuberculosis and anaplasmosis. If made, the kind and results of these tests should be clearly shown.

An officially vaccinated animal is defined as a bovine animal of a dairy breed vaccinated against brucellosis from 2 to 6 months of age—or a bovine animal of a beef breed in a range or semi-range area, vaccinated against brucellosis from 2 to 10 months of age—under the supervision of a Federal or State Veterinary official, with a vaccine approved by Veterinary Services, APHIS, USDA; permanently identified as a vaccinate; and reported at the time of vaccination to the appropriate State and Federal agencies cooperating in the eradication of brucellosis.

Officially vaccinated female dairy cattle 20 months of age and older and officially vaccinated female cattle of the beef breeds 24 months of age and older must be blood tested for brucellosis with negative results in dilution of 1:100 and above.

NOTE: Canada does not consider the brucellosis vaccination of any animal official unless it was vaccinated between 2 and 6 months of age. If vaccinated after the day the animal becomes 6 months old, it is not official. The exact date of vaccination must be shown on the certificate.

The *tuberculin* test and the *brucellosis* test may be waived by the Deputy Administrator, VS, APHIS, when so requested by a responsible official of the country of destination, if he feels that it can be done without endangering the livestock export trade of the United States.

Department export regulations also require all breeding swine to be tested for brucellosis with negative results within 30 days prior to exportation.

Health Certificate

A United States Origin Health Certificate is designed for shipments of livestock to foreign countries. Health certificates record the veterinary health inspection of export animals at point of origin and contain appropriate information about the diagnostic tests that were completed.

In addition, health certificates should show any vaccinations or immunizations given immediately prior to shipment, with appropriate dosage, product used, and date administered clearly indicated.

Completing Certificates

Certificates accompanying animals to port of export shall show proper identification of the animals in the shipment with respect to *breed, sex,* and *age* in date of birth, and, when applicable, shall also show *registration name* and *number, tattoo markings, tag number*, or other natural or acquired markings.

The correct date of *issuance* of the certificate should be indicated. This should coincide with the date of actual inspection of the animals.

Only true statements should be made. Unsubstantiated statements such as "these animals are free of all diseases" are not acceptable.

Names and addresses of consignor and consignee must be shown.

Port of export and country of destination must be clearly shown.

Endorsement of Health Certificates

All copies of the completed certificate, as one of the necessary export requirements, shall be endorsed by the Area Federal Veterinarian-in-Charge in the State of origin, or by another APHIS veterinarian so authorized by the Deputy Administrator, VS, APHIS.

IMPORTANT: All copies of certificates must be legible and complete before they can be properly endorsed.

Transportation

Department regulations require that all animals intended for export be moved from premises of origin to a port of export in cleaned and disinfected trucks, railroad cars, or other conveyances unless such conveyances were not previously used to transport livestock. Crates must be constructed of new material, or if previously used to transport livestock must first be cleaned and disinfected.

Reinspection and Certification at Port of Export

Animals destined to a foreign country are given veterinary inspection at ports of export specified by regulation, except that such reinspection of livestock destined overland to Canada and Mexico is the responsibility of the salaried veterinarians of those Governments. If the animals are accompanied by properly executed and endorsed health certificate, and the APHIS port veterinarian finds the animals to be free from evidence of communicable disease and exposure thereto, he may issue a specific export certificate to that effect (except in the case of Canada and Mexico), which accompanies the animals to destination. Issuance of the export certificate is based upon the port veterinarian's inspection of the animals and his examination of the documents accompanying the shipment. The law precludes clearance of an ocean vessel or airplane with livestock aboard until the export certificate has been issued.

Export Animals, Poultry, and Hatching Eggs—Special Requirements

Animals.—Some special requirements for movement of animals from the United States should be noted:

- Except for immediate slaughter, all sheep and goats destined for Canada must be inspected and the necessary certificates issued at the point of origin by an APHIS veterinarian.

All rodeo cattle, for entry into Canada must meet all requirements for breeding cattle, except that steers and spayed heifers do not need to be tested for brucellosis.

Poultry and Hatching Eggs.—This Department does not have regulations applicable to the export shipment of poultry and eggs; therefore, such shipments are governed by the import regulations of the receiving country.

Canadian authorities have approved a specific certificate (ANH form 17-35) for poultry and hatching eggs from the United States. These certificates may be obtained from the Area Veterinarian-In-Charge, Veterinary Services, APHIS, in the State of origin, who must also endorse them when completed. Inspection and certification for poultry and hatching eggs destined for Canada may be done by an accredited veterinarian. A summary of other requirements necessary to meet Canadian import regulations for poultry is contained on the reverse side of the certificate.

Mexican import regulations contain the requirement that a prior permit for livestock, poultry, and hatching eggs be obtained from the Ministry of Agriculture, Mexico, D.F., Mexico. They also require that health certificates accompanying such shipments to Mexico be visaed by a Mexican consular officer nearest the point of origin.

IMPORTANT: APHIS personnel authorized to endorse certificates for export animals and poultry have been instructed not to do so unless the certificates have been:

- Issued by an accredited veterinarian, State veterinarian, or Federal veterinarian.
- Properly executed and there is reason to believe that *all* statements are accurate and factual insofar as can be determined and are not misleading or worthless.

ORGANISMS AND VECTORS

Organisms such as bacteria and viruses are being used in increasing numbers in research on both human and animal diseases. Department of Agriculture regulations state that no organism (which may introduce or disseminate any contagious or infectious disease of animals) or vector of such organism may be imported into the United States or be moved from one State to another without a permit from the Department of Agriculture and in compliance with the terms thereof. The purpose of this regulation is to ensure that such agents are handled in a manner that will not endanger the health of our domestic livestock population.

Specifically, a permit must be obtained prior to the importation of any organism, even though the same organism occurs naturally in the United States. However, it would be impractical to require a prior permit for movement within the United States of all animal pathogens that naturally occur in this country. The general policy is to require a permit for organisms for which eradication programs are being conducted, as well as for any other highly virulent organism. The viruses causing vesicular stomatitis, bluetongue, equine infectious anemia, scrapie, and hog cholera are examples of agents for which permits are required for interstate movement. Although eradication programs are being conducted, permits are not required for the interstate shipment of brucellosis or tuberculosis organisms at the present time. Various newly isolated agents may be placed in the restricted category until their significance and distribution are known. Before shipping any organism it is wise to consult with the Area Federal Veterinarian-in-Charge, Veterinary Services, APHIS, in your State to determine if a shipping permit will be necessary.

Importation into the United States of the live virus of foot-and-mouth disease is prohibited by Federal law. In addition, because the agents of diseases such as African swine fever, rinderpest, contagious bovine pleuropneumonia, African horsesickness, and several other foreign animal diseases are considered too dangerous to study in the United States, the USDA does not permit their importation.

When reviewing applications for permits, major factors considered are: The agent itself, the source of the agent, the qualifications of the individual requesting the agent, the proposed use of the agent, and the laboratory facilities where the agent will be studied. Inspections of facilities to determine that security provisions are adequate are often made by Veterinary Services veterinarians prior to issuing permits. Permits, when issued, may stipulate certain conditions under which the agent may be studied; e.g., *in vitro* studies only, incineration of all wastes, etc., as additional safeguards to protect the surrounding livestock population.

In addition to requiring permits for the movement of organisms and vectors, authorization is required for the importation of all animal material, including diagnostic specimens such as tissue, blood, serum, etc. Such mateiral could unknowingly be infected with dangerous animal disease agents and must therefore be handled in a manner that precludes the possibility of infecting domestic livestock.

Disease agents and vectors indigenous to all States and diagnostic specimens from animals known to be or suspected of being infected with such agents usually may be moved interstate without prior permit.

Code of Federal Regulations, Title 9, Chapter 1,
Subchapter 1, as amended February 14, 1970

Title 9—ANIMALS AND ANIMAL PRODUCTS

CHAPTER I—ANIMAL AND PLANT HEALTH INSPECTION SERVICE, DEPARTMENT OF AGRICULTURE

SUBCHAPTER I—ACCREDITATION OF VETERINARIANS AND SUSPENSION OR REVOCATION OF SUCH ACCREDITATION

PART 160—DEFINITION OF TERMS

PART 161—REQUIREMENTS AND STANDARDS FOR ACCREDITED VETERINARIANS AND SUSPENSION OF REVOCATION OF SUCH ACCREDITATION

Revision of Standards and Definition of Terms

Statement of considerations. On March 7, 1974, there was published in the FEDERAL REGISTER (39 FR 8938–8939), proposed amendments to the regulations in 9 CFR, Parts 160 and 161 which would (1) redefine the term "accredited veterinarian" to permit such person to perform functions under the Horse Protection Act of 1970, (2) clarify the Standards for Accredited Veterinarians, including standards which prohibit the unauthorized use and/or distribution of biologics, drugs, or chemicals, (3) provide for the automatic termination of accerditation in a given State when an accredited veterinarian's license to practice veterinary medicine in that State is terminated, (4) provide for the automatic termination of accreditation when a veterinarian is convicted of a crime related to the Standards for Accredited Veterinarians, and (5) establish a minimum period of revocation of one year.

A period of 30 days was allowed for submission of comments. Three written comments were received in response to the proposal. Two comments suggested that standard (i) in § 161.2 be made more clear. After due consideration it was decided that standard (i) could not be made more clear and still allow for the addition of new products as disease eradication programs change with progress. The third comment suggested that standard (g) be changed to require cleaning and disinfecting before proceeding to another premises rather than when proceeding from an infected premises because the status of the premises left may be unknown at the time.

After due consideration of all relevant material, including that submitted in connection with such notice, the proposal is hereby adopted without substantive changes, except that standard (g) in § 161.2 is changed to require cleaning and disinfection before proceeding from any premises to another premises.

Accordingly, Part 160, Title 9, Code of Federal Regulations is hereby amended to read as follows:

§ 160.1 Definitions.

For the purposes of this subchapter the following words, phrases, names, and terms shall be construed, respectively, to mean:

(a) *"Service."* The Veterinary Services, Animal and Plant Health Inspection Service, U.S. Department of Agriculture.

(b) *"Deputy Administrator."* The Deputy Administrator for the Service or his representative to whom authority has heretofore been delegated or may hereafter be delegated to act in his stead.

(c) *"State."* Any State, Territory, the District of Columbia or the Commonwealth of Puerto Rico.

(d) *"Accredited Veterinarian."* [1] A veterinarian approved by the Deputy Administrator in accordance with the provisions of Part 161 of this subchapter to perform functions specified in Part 11 of Subchapter A, and Subchapters B, C, and D of this Chapter, and to perform functions required by cooperative State-Federal disease control and eradication programs.

(e) *"Veterinarian-in-Charge."* The veterinary official of the Service who is assigned by the Deputy Administrator to supervise and perform the official work of the Service in the State where the veterinarian concerned is accredited or wishes to be accredited.

(f) *"State Animal Health Official."* The State Animal Health Official who is responsible for the livestock and poultry disease control and eradication programs of the State in which the veterinarian is accredited or wishes to be accredited.

(g) *"Official certificate, form, record, report, tag, band, brand, or other identification."* Means any certificate, form, record, report, tag, band, brand, or other identification, prescribed by statute or regulations issued by the Secretary of Agriculture of the United States or State Animal Health Official, for issuance by an

[1] The provisions of Part 11 of Subchapter A, and Subchapters B, C, and D of this chapter authorize Federal and State veterinarians and accredited veterinarians to perform specified functions. Full-time Federal (including military and State employed veterinarians are authorized to perform such functions, pursuant to delegation of authority or cooperative agreements without specific accreditation under the provisions of this subchapter.

accredited veterinarian performing official functions under this subchapter.

(h) *"Secretary."* The Secretary of Agriculture or any officer or employee of the Department to whom authority has heretofore been delegated, or to whom authority may hereafter be delegated, to act in his stead.

Accordingly, Part 161, Title 9, Code of Federal Regulations is hereby amended to read as follows:

Sec.

AUTHORITY: 23 Stat. 32 as amended; 26 Stat. 417; 32 Stat. 791, 792, as amended; 33 Stat. 1265, as amended; 41 Stat. 699; 58 Stat. 734, as amended; 65 Stat. 693; 76 Stat. 130, 132; 84 Stat. 1406; 15 U.S.C. 1828; 21 U.S.C. 105, 111–114, 114a, 114a–1, 116, 120, 121, 125, 134b and 134f.

§ 161.1 Requirements for accreditation.

(a) The Deputy Administrator is hereby authorized to accredit a veterinarian when he determines that such veterinarian (1) is a graduate of a college of veterinary medicine; (2) is licensed to practice veterinary medicine in the State in which he wishes to be accredited; (3) has made formal application for accreditation on Form 1–36A, "Application for Veterinary Accreditation"; (4) has passed an examination administered by the Service; and (5) has been jointly recommended by the State Animal Health Official and the Veterinarian-in-Charge for the State in which the veterinarian is licensed and wishes to be accredited.

(b) The Deputy Administrator is hereby authorized to reaccredit a veterinarian whose accreditation has been revoked when he determines, after the order of revocation has been in effect for not less than one year, that such veterinarian (1) is licensed to practice veterinary medicine in the State in which he wishes to be accredited; (2) has made formal application for accreditation on Form I–36A, "Application for Veterinary Accreditation"; (3) has been jointly recommended by the State Animal Health Official and the Veterinarian-in-Charge for the State in which the veterinarian is licensed and wishes to be accredited; and (4) such veterinarian has furnished adequate assurance that he will faithfully fulfill the duties of an accredited veterinarian in the future.

§ 161.2 Standards for accredited veterinarians.

An accredited veterinarian shall perform official duties subject to the supervision and direction of the Veterinarian-in-Charge and the State Animal Health Official and shall observe the following specific standards:

(a) An accredited veterinarian shall not issue a certificate, form, record or report which reflects the results of any inspection, test, vaccination or treatment performed by him, with respect to any animal or poultry, unless he has personally inspected each animal, bird, or flock in such a manner as to detect abnormalities, such as, but not limited to, locomotion, body excretion, respiration, and skin conditions. An accredited veterinarian shall thoroughly examine each animal, bird, or flock showing abnormalities, in order to determine whether or not there is the presence or absence of a communicable disease, or in the case of a horse being examined under Part 11 of Subchapter A, whether or not it complies with such regulations and the provisions of the Horse Protection Act of 1970, and any legislation amendatory thereof.

(b) An accredited veterinarian shall not sign any certificate, form, record or report, or permit such a certificate, form, record, or report to be used until, and unless, he has ascertained that it has been accurately and fully completed clearly identifying the animal(s) or bird(s) to which it applies and showing the results of the inspection, test, or vaccination, etc., he has conducted, except as provided in paragraph (c) of this section. The accredited veterinarian shall distribute copies of certificates, forms, records, and reports, according to instructions issued to him by the Veterinarian-in-Charge or the State Animal Health Official.

(c) An accredited veterinarian shall not issue or sign any certificate, form, or report which reflects the results of any inspection, test, vaccination, or treatment, perfromed by another accredited veterinarian, unless the certificate, form, or report indicates that the inspection, test, vaccination, or treatment was performed by the other veterinarian; identifies the name of such other veterinarian; and includes the date and the place where such inspection, test, or vaccination was performed.

(d) An accredited veterinarian shall perform official tests, inspections, treatments, and vaccinations and shall submit specimens to designated laboratories in accordance with Federal and State regulations and instructions issued to the accredited veterinarian by the Veterinarian-in-Charge or the State Animal Health Official, or both.

(e) An accredited veteranarian shall identify reactor animals by branding and tagging or such other method as may be prescribed in instructions issued to him by the Veterinarian-in-Charge or the State Animal Health Official, or both.

(f) An accredited veterinarian shall immediately report all diagnosed or suspected cases of diseases of livestock, birds, or poultry named in § 71.3(a) and (b) of Part 71, Subchapter C of this Chapter, to the Veterinarian-in-Charge or the State Animal Health Official, or both. An accredited veterinarian designated to examine and observe horses at shows and exhibitions shall complete the form provided on all horses which he considers are sored and shall promptly report each horse considered by him to be sored to the Veterinarian-in-Charge for

the State in which the horse show or exhibition is held in accordance with the Horse Protection Act of 1970, or any legislation amendatory thereto, and the regulations as promulgated in Part 11, Subchapter A of this Chapter.

(g) An accredited veterinarian shall take such measures as are necessary to prevent the spread of communicable diseases of livestock or poultry. Such measures shall include, but are not limited to, the use of sanitized instruments to collect specimens from, or to administer vaccines to such individual animals, birds, or poultry, and the cleaning and disinfecting of footwear, restraining chutes, and other equipment before proceeding to another premises.

(h) An accredited veterinarian shall keep himself currently informed on Federal and State regulations governing the movement of animals and poultry, and on procedures applicable to disease control and eradication programs, including emergency programs, and on regulations under the Horse Protection Act of 1970, and any legislation amendatory thereof. He shall carry out all of his responsibilities under the applicable Federal programs and cooperative programs in accordance with such regulations and instructions issued to him by the Veterinarian-in-Charge or the State Animal Health Official, or both.

(i) An accredited veterinarian shall not use or dispense in any manner, any drug, chemical, vaccine or serum, or other biological product authorized, for use under any Federal regulation or cooperative disease eradication program, without authorization from the Service or in contravention of any Federal or State statute or regulation, or instruction.

(j) An accredited veterinarian shall be responsible for proper use of all certificates, forms, records, reports, tags, brands, bands, or other identification used in his work as an accredited veterinarian and shall take proper precautions to prevent misuse thereof. He shall immediately report to the Veterinarian-in-Charge or State Animal Health Official the loss, theft, or deliberate or accidental misuse of any such certificate, form, record, report, tag, band, brand, or other identification. He shall not permit any certificate, form, record, report, tag, band, brand, or other identification, to be kept in the custody of anyone but himself prior to official use.

(k) An accredited veterinarian designated under the regulations issued pursuant to the Horse Protection Act of 1970, and any legislation amendatory thereof (Part 11, Subchapter A, 9 CFR), for the purpose of determining whether horses are in compliance with said Act, and any legislation amendatory thereof, and said regulations, shall thoroughly examine each horse in a professionally acceptable manner, in accordance with any instructions given by the Veterinarian-in-Charge, to determine whether or not each horse is in compliance with said Act, and any legislation amendatory thereof, and said regulations.

§ 161.3 Suspension or revocation of veterinary accreditation.

(a) The Secretary is authorized to suspend for a given period of time, or to revoke, the accreditation of a veterinarian when he determines that the accredited veterinarian has not complied with the "Standards for Accredited Veterinarians" as set forth in § 161.2, or in lieu thereof to issue a written notice of warning to the accredited veterinarian when the Deputy Administrator determines a notice of warning will be adequate to attain compliance with the Standards.

(b) Accreditation in a given State shall be automatically terminated when an accredited veterinarian's license to practice veterinary medicine in that State is terminated.

(c) Accreditation shall be automatically revoked when an accredited veterinarian is convicted of a crime in either State or Federal court, if such conviction is based on the performance or nonperformance of any act required of him in his capacity as an accredited veterinarian.

(d) Any suspension or revocation of accreditation for failure to comply with the Standards shall be applicable in all States in which the veterinarian is accredited.

Effective date. The foregoing amendments shall become effective June 26, 1974.

These amendments clarify and bring up to date the standards for accredited veterinarians under the regulations of Parts 160 and 161. These amendments should be made effective promptly to be of maximum benefit to persons and programs affected. It does not appear that further public participation in this rulemaking proceeding would make additional relevant information available to the Department.

Accordingly, under the administrative procedure provisions in 5 U.S.C. 553, it is found upon good cause that further notice and other public procedure with respect to the amendments are impracticable and unnecessary and good cause is found for making them effective less than 30 days after publication in the FEDERAL REGISTER.

Done at Washington, D.C., this 20th day of June 1974.

PIERRE A. CHALOUX,
Acting Deputy Administrator, Veterinary Services, Animal and Plant Health Inspection Service.

[FR Doc.74-14658 Filed 6-25-74;8:45 am]

PART 162—RULES OF PRACTICE GOVERNING REVOCATION OR SUSPENSION OF VETERINARIANS' ACCREDITATION

Subpart A—General

Sec.

Subpart B—Supplemental Rules of Practice

AUTHORITY: 23 Stat. 32 as amended; 26 Stat. 417; 32 Stat. 791, 792, as amended; 33 Stat. 1265, as amended; 41 Stat. 699; 58 Stat. 734; 65 Stat. 693; 84 Stat. 1406 (15 U.S.C. 1828; 21 U.S.C. 105, 111, 114a-1, 115, 116, 120, 121, 125, and 134f).

Subpart A—General

§ 162.1 Scope and applicability of rules of practice.

The Uniform Rules of Practice for the Department of Agriculture promulgated in Subpart H of Part 1, Subtitle A, Title 7, Code of Federal Regulations, are the Rules of Practice applicable to adjudicatory, administrative proceedings for the revocation or suspension of accreditation of veterinarians (9 CFR, Parts 160 and 161). In addition, the Supplemental Rules of Practice set forth in Subpart B of this Part shall be applicable to such proceedings.

Subpart B—Supplemental Rules of Practice

§ 162.10 Summary suspension of accreditation of veterinarian.

In any situation where the Administrator has reason to believe that any veterinarian accredited under the provisions of 9 CFR Parts 160 and 161 has not complied with the "Standards for Accredited Veterinarians" set forth in 9 CFR 161.2, and he deems such action necessary in order to adequately protect the public health, interest, or safety, the Administrator may suspend the accreditation of such veterinarian pending final determination in the proceeding, effective upon oral or written notification, whichever is earlier. In the event of oral notification, a written confirmation thereof shall be given to such veterinarian pursuant to § 1.147(b) of the Uniform Rules of Practice (7 CFR 1.147(b)) as promptly as circumstances permit. Such suspension shall have no relevance with respect to the final determination in the proceeding.

§ 162.11 Notification.

The Veterinarian in Charge shall notify the accredited veterinarian when there is reason to believe that he has not complied with the "Standards for Accredited Veterinarians" as contained in 9 CFR 161.2. The notification shall be in writing and shall include a statement of the basis for the belief that the accredited veterinarian has failed to comply with the standards and shall notify the accredited veterinarian of the desire of the Veterinarian in Charge to arrange an informal conference to discuss the matter.

§ 162.12 Informal conference.

(a) The Veterinarian in Charge, with the concurrence of the State Animal Health Official and the accredited veterinarian, shall designate the time and place for the holding of an informal conference to review the matter.

(b) If during, or at the conclusion of, the informal conference, the Veterinarian in Charge determines that a warning will be adequate to attain compliance with the standards, he may issue such warning in writing to the accredited veterinarian without further procedure.

(c) If prior to, during, or at the conclusion of, the informal conference, the accredited veterinarian consents, in writing, to the issuance of an order revoking or suspending his accreditation for a specified period of time, in lieu of further procedure, the Veterinarian in Charge may issue such an order without further procedure.

§ 162.13 Formal complaint.

If a consent order has not been issued, or if, after an informal conference, the Veterinarian in Charge has not issued a warning to the accredited veterinarian, a complaint in writing shall be issued by the Administrator in accordance with § 1.135 of the Uniform Rules of Practice (7 CFR 1.135).

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